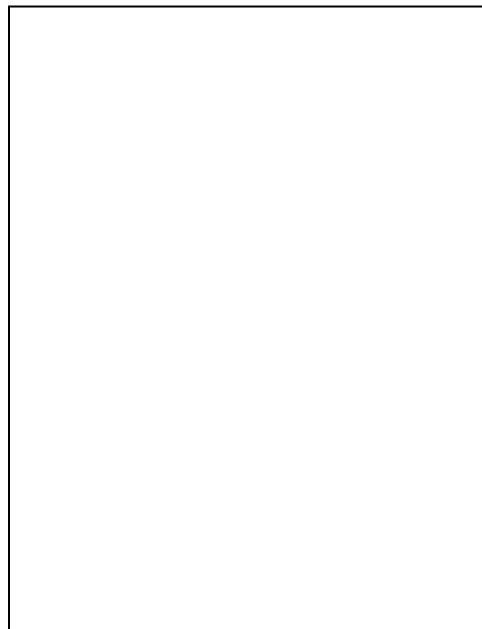


RELIGION, SPIRITUALITY, AND MENTAL HEALTH AND SOCIAL BEHAVIOUR IN YOUNG ADULTHOOD: A LONGITUDINAL STUDY

A thesis submitted for the degree of Doctor of Philosophy at The University of Queensland in April 2007, Rosemary Lyn Aird, School of Population Health.



Candidate's Statement of Originality

The work presented in this thesis is, to the best of my knowledge and belief, original and my own, except where acknowledged in the text. This material has not been submitted either in whole or part, for a degree at this or any other University.

.....
Rosemary Lyn Aird

.....
Principal Academic Advisor, Professor Jakob M. Najman

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Abstract

Background: The concept *spirituality* appears to be gaining increasing attention for its potential relationship to mental health, despite there being an absence of consensus on what spirituality is or whether it can be distinguished from religion (or religiousness) in operational terms. Spirituality is a term that is embraced within secular and non-secular contexts alike. As a consequence, spirituality as a concept encompasses forms of religiosity that are embedded in traditional religion and those that have little or no connection to traditional religious teachings. The emergence of religious/spiritual beliefs that depart from traditional religious thought represents one key feature of widespread religious change in contemporary societies. Non-traditional religious/spiritual beliefs need to be viewed within this context and thus be differentiated from traditional religious/spiritual beliefs when investigating connections between religion, spirituality, and mental health.

Aims: The current study seeks to compare the mental health of those whose beliefs are rooted in religious tradition with those whose beliefs deviate from traditional religious thought. The two main objectives of this study are: (1) to determine the extent to which religious background predicts endorsement of traditional and non-traditional religious/spiritual beliefs and church attendance in young adulthood; and (2) to determine whether differential relationships exist between current religiosity, religious background, and mental health in young adulthood, and whether any observed differences are attributable to other characteristics of respondents like sociodemographic factors and health-risk behaviours.

Methods: Data were derived from the Mater-University of Queensland Study of Pregnancy, a longitudinal, prospective study of maternal and child health from the prenatal period to 21 years post-delivery. Religiosity was assessed among the study children in young adulthood from three items measured at the time of the 21-year follow-up. Religious background was assessed from information provided by the study mothers in earlier phases of the study. Young adult responses to items included in the Young Adult Self Report (Achenbach, 1997) were used to assess cases of anxiety/depression and externalising behaviour, and delusional ideation was assessed from their responses to the 21-item Peters et al. Delusions Inventory (PDI) (Peters & Garety, 1996).

Results: Belief in a spiritual or higher power other than God was found to be positively related to anxiety/depression, disturbed ideation, suspiciousness and paranormal ideation, high total PDI scores, as well as antisocial behaviour in young adulthood, regardless of gender. These associations persisted after adjustment for potential confounders. By contrast, young adults who maintain a traditional belief in God appear to be no different to those who reject this belief in

regard to anxiety/depression. Belief in God was found to have no association with antisocial behaviour for males, but was observed to have a weak negative relationship with antisocial behaviour for females. This association failed to reach statistical significance however, after adjustment for other religious/spiritual and social characteristics. No associations were found between young adult belief in God and disturbed, suspicious or paranormal ideation, although a positive relationship was identified for high total PDI scores. Weekly church attendance was observed to reduce the likelihood of antisocial behaviour in young adulthood among males, but not females. Religious ideation was found to more prevalent among young adults who attend church on either a weekly or infrequent basis. No long-term effects on anxiety/depression or antisocial behaviour were evident from maternal belief in God, church attendance or religious affiliation in the young adults' early lives. However, maternal church attendance predicted religious ideation in young adulthood. Offspring of mothers affiliated with a Pentecostal church in the prenatal period appear to have a high rate of religious ideation and high total PDI scores. Paranormal ideation in young adulthood appears to have no association with maternal religiosity in a young adult's early life.

Conclusion: The findings from this study suggest that young adults who endorse non-traditional religious/spiritual beliefs are at greater risk for poorer mental health and aberrant social behaviour than those who reject these beliefs. These results suggest that a non-traditional religious/spiritual belief system involves more than mere rejection of traditional religious doctrine. This system of belief may be a marker for those who question the legitimacy of established societal norms and values, and whose thoughts, attitudes and actions reflect this position. This possibility has implications for mental health and wellbeing at both an individual and a societal level and warrants further research attention.

List of Presentations while undertaking Candidature

Aird, R., Najman, J.M., and Mamun, A.A. Oral presentation entitled “Does church attendance or spiritual belief explain the association between religiosity and aggression?” International Conference of Interdisciplinary Social Sciences, Island of Rhodes, Greece 20 July, 2006.

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List of Abbreviations

ABS	Australian Bureau of Statistics
ACS	Australian Community Survey
Adj OR	Adjusted odds ratios
ARDA	Association of Religion Data Archives
ARIS	American Religious Identification Survey
ASCRG	Australian Standard Classification of Religious Groups
CI	Confidence intervals
ESP	Extra-sensory perception
GSS	General Social Survey
NCLS	National Church Life Survey, Australia
NIHR	National Institute of Health Research, United States of America
NRM	New religious movement
OT	Occupational therapist
PDI	Peters et al. Delusional Inventory
R/S	Religious/spiritual
SF-12	12-Item Short Form Health Survey
S/HP	Spiritual or higher power
SS	Subjective spirituality
TR	Tradition-oriented religiosity
Unadj OR	Unadjusted odds ratios

Chapter One: Introduction

In recent years, there has been a substantial rise in interest in spirituality within the fields of psychology and psychiatry. A search conducted on the *PsychInfo* database for peer-reviewed journal articles containing the word spirituality, or a related term (using the keyword *spiritual**) indicates that the number of journal publications related to this topic since 2000 to August 2006 (6357) has almost doubled those published during the previous 107 years between 1893 and 1999 (3349)¹. Since spirituality has only recently gained attention as a specific object of enquiry within the study of religion and health, there is only a limited amount of empirical literature examining connections between spirituality or religion/spirituality, and mental health and social behaviour. Findings to date are inconsistent, showing spirituality (or religion/spirituality) as having positive (Baetz, Griffin, Bowen, Koenig, & Marcoux, 2004; Kaldor, Hughes, Castle, & Bellamy, 2004; Saucier & Skrzypinska, 2006), negative (Corrigan, McCorkle, Schell, & Kidder, 2003; Davis, Kerr, & Kurpius, 2003; Good & Willoughby, 2006; Koenig, Cohen, Blazer, Pieper, Meador, Shelp et al., 1992; Pearce, Little, & Perez, 2003; Resnick, Harris, & Blum, 1993; Wright, Frost, & Wisecarver, 1993), and no associations (Corrigan, McCorkle, Schell et al., 2003; Good & Willoughby, 2006; Kaldor, Hughes, Castle et al., 2004; Wink, Dillon, & Larsen, 2005), with a range of mental health and behavioural outcomes.

Interpreting this evidence is fraught with difficulties however, since close inspection reveals that the conceptualisations of spirituality that have been used thus far vary considerably across studies and often involve the conflation of religion *and* spirituality. This raises issues in regard to the legitimacy of findings being attributed to a phenomenon termed 'spirituality'. Even the idea that there is some singular phenomenon that can be labelled spirituality is a dubious proposition, given the disparate meanings ascribed to this term within the research community and the general population alike. Moreover, a number of literature reviews published recently on religiousness/spirituality have relied heavily on findings from journal articles that report observed associations between religion and mental health outcomes, with no spirituality concept being evident in either the methodology or discussion sections of the research papers under review. George and colleagues (2000:107) emphasise that the bulk of extant literature on "spirituality and health" are based on measures of religion rather than spirituality. The lack of clarity in what is actually being referred to when the terms "spirituality", "religion", and "religiousness" are used, raises numerous theoretical and

¹ Search conducted on Thursday 24 August, 2006.

substantive issues in regard to making determinations about the potential benefits or harms that might be associated with forms of religiosity that exist in today's world.

One major contributor to the difficulties encountered in differentiating spirituality from religion is the fact that these terms tended to be used interchangeably prior to recent times (George, Larson, Koenig et al., 2000). The changing religious landscape over recent decades has however, given cause for reappraising how these terms are each perceived *and* conceived. The terms “spiritual” and “spirituality” are now embraced widely within both secular and non-secular contexts (Bash, 2004), giving rise to much debate about what these terms really mean and the extent that they need to (or can) be differentiated from religion and religiousness. Even though considerable efforts have been made to define spirituality and religion in such a way that distinguishes one from the other, a conceptual overlap persists between them. As a consequence, it is not surprising that few studies have investigated spirituality as a concept that is separate from religion (see Good & Willoughby, 2006; Kaldor, Hughes, Castle et al., 2004; Saucier & Skrzypinska, 2006). Other researchers (like Baetz, Griffin, Bowen et al., 2004; Baetz, Larson, Marcoux, Bowen, & Griffin, 2002) have simply used measures that conflate spirituality and religion (or religiousness) and reported their findings as being attributable to “religiousness/spirituality”. While the latter approach may have been adopted as a means of bypassing the manifold problems associated with distinguishing spirituality from religion (or religiousness) or alternatively, because researchers have decided that the two terms refer to a single phenomenon or very similar phenomena, it nonetheless fails to consider fundamental differences between forms of religiosity that remain rooted in traditional religious thought and those that are not.

In particular, the conflation of religion and spirituality ignores observations of the term “spiritual” being purposely used as a self-descriptor by those who wish to distance themselves from organised religion and its associated doctrine and dogma (see Possamai, 2000). Likewise, substantial proportions of populations in Western countries now appear to reject a traditional belief in God as *the* divine being and instead conceive the divine as a depersonalised being that takes the form of some sort of spiritual or higher power or force (Association of Religion Data Archives, 2001; Francis & Kaldor, 2002; Houtman & Mascini, 2002; Kelley & De Graff, 1997). Moreover, churchgoers and non-churchgoers alike have been observed to endorse non-traditional conceptions of the divine (Possamai, 2000; Woodhead, 1993), undermining the legitimacy of participation in religious services being taken to indicate a traditional religious orientation.

The recent tendency for researchers to use self-identification with the term

“religious/spiritual” as a measure from which to base investigations into health outcomes is particularly problematic, since it serves to collapse those with disparate belief systems and practices into a single category. People are known to identify with the terms “religious” and “spiritual” in disparate ways, with some describing themselves as being “religious *but not* spiritual”, others as “spiritual *but not* religious”, and still others as “religious *and* spiritual” (Zinnbauer, Pargament, Cole, Rye, Butter, Belavich et al., 1997). These contrasting self-descriptions reflect divergent religious/spiritual beliefs, attitudes and practices (Taylor, Mitchell, Kenan, & Tacker, 2000; Zinnbauer, Pargament, Cole et al., 1997; Zinnbauer, Pargament, & Scott, 1999). Thus, the conflation of religion and spirituality for research purposes, assigns discrepant practices, behaviours and attitudes, and opposing belief systems into a single heterogeneous group. The implications of this conceptual approach require serious consideration.

The implications from conflating religion and spirituality

The conflation of religion and spirituality has at least two major implications for the interpretation of research evidence showing relationships between these phenomena and human health. Firstly, this approach groups together two contrasting forms of religiosity that have been identified by numerous authors as “religious” spirituality and “non-religious” spirituality (see for example Bash, 2004; Van Ness, 1996; Woodhead, 1993), though the boundary that exists between them is somewhat blurred. Participation in activities run by religious organisations cannot be assumed to represent “religious spirituality”, because some church attendees describe themselves as being “spiritual but not religious” (Roof, 1993; Zinnbauer, Pargament, Cole et al., 1997). Moreover, varieties of spirituality that are deemed to be “non-religious” by virtue of their lack of connection to services run by religious institutions, may still involve endorsement of core religious values and beliefs that are traditional in nature, and thus be more religious in orientation than they are non-religious. Non-involvement with religious organisations does not equate to non-belief in God or the rejection of values promoted by religious organisations. Conflated measures of religiousness/spirituality therefore serve to group an unknown number of variant forms of religiosity encompassing: those that maintain ties to traditional religion, through the holding of core religious beliefs and values; those that are highly individualised and diverse in regard to beliefs, practices, values, and behaviours; those linked to New Religious Movements (NRMs); as well as those that involve regular participation in religious services and adherence to Church doctrine, and those that also involve regular attendance at religious services, but which encompass beliefs and practices that deviate from religious tradition. Indeed, it is unknown

how many different beliefs and practices might be included within the so-called ‘non-religious’ variety of spirituality, since spirituality is a term that is embraced within contexts as diverse as the New Age, Human Potential and Deep Ecology movements, native, pagan, and various Eastern religions, black and ethnic groups, feminist spirituality (Woodhead, 1993), and twelve-step programs (Zinnbauer, Pargament, & Scott, 1999). How then does one interpret evidence arising from all these divergent forms of religiosity being amassed within a single category “religiousness/spirituality”?

Secondly, if a study finds that a single measure of religiousness/spirituality is positively or negatively related to a particular mental health outcome, how is this association to be explained? In 1997, the National Institute of Healthcare Research (NIHR) in the United States convened a panel to review the accumulated evidence on spirituality and health. This panel identified ten domains of religion and/or spirituality for which there was “at least minimal evidence of links to health” (George, Larson, Koenig et al., 2000:105). These domains pertain to religious preference or affiliation, history, participation, private practices, support, coping, beliefs and values, commitment, motivation for regulating or reconciling relationships, and experiences (see Appendix A). While the identification of these domains is useful for classifying evidence, it does not progress understanding of whether or not the mechanisms that are involved in the *religion*-mental health relationship are the same as those involved in the *spirituality*-mental health relationship. Any assumption that religion and spirituality have the same relationship with mental health as one another ignores fundamental differences between religious and non-religious varieties of spirituality. Findings from studies that have used conflated measures of religiousness/spirituality necessarily rest on the summed effect of mechanisms related to religiousness and to spirituality, with no clarity being gained as to whether the mechanisms involved for these variants of religiosity are the same, similar or in direct contrast to one another. Thus, singular measures of “religiousness/spirituality” hold little capacity to further our understanding of whether or not different forms of religiosity moderate mental health and social behaviour in different ways.

By contrast, attention to whether religious/spiritual beliefs are traditional or non-traditional in nature serves to differentiate those who maintain beliefs that are rooted in religious tradition from those that deviate from traditional religious thought. This approach is being used in this thesis since it provides an opportunity to compare health outcomes according to two contrasting belief systems – systems of belief that have implications for the way people negotiate their daily lives.

Traditional and non-traditional beliefs: a way of approaching the study of contemporary religiosity

Traditional and non-traditional religious/spiritual beliefs imply disparate worldviews. On the one hand, a belief in God represents a belief that is a central feature of Christian traditions (and of various non-Christian traditions). On the other hand, a non-traditional conception of the divine as some sort of depersonalised spiritual or higher power or force represents a clear departure from traditional religious doctrine. This alternative conception of the divine is characteristic of the New Spirituality, a term proposed by Linda Woodhead (1993) to refer to a range of beliefs and practices that have emerged through the activities of New Age movement. The New Spirituality and its key features are discussed at length in Chapter Three. The importance of how the sacred is conceived by individuals is highlighted by Silberman (2005:646) who argues that people's conceptions of the sacred help determine the way they perceive themselves, others, their society, and the cosmos. While traditional religions conceive God to be the Ultimate authority and emphasises moral duty and social obligation within their doctrines, the New Spirituality rejects traditional notions of God as the Supreme Being and emphasises an individualistic approach to life, by promoting the idea that authority over moral decision making and determinations about Ultimate truth are the rightful preserve of the individual (Woodhead, 1993). Even though the New Spirituality emphasises the "connectedness" of all things, the individual is conceived to be engaged in a solitary spiritual journey (Woodhead, 1993). These two contrasting ideologies are likely to give rise to differences in the way people perceive themselves, others and society in general, which may in turn translate to differential outcomes in terms of both mental health and social behaviour.

Alternative conceptions of the divine represent the development of a new form of religiosity within the West, even though it lacks a clear and easily identifiable structure, membership, common doctrine or set of practices. Despite the conceptual difficulties that surround attempts to differentiate this new form of religiosity as a discrete entity, the proportions of populations that now endorse alternative conceptions of the divine (Association of Religion Data Archives, 2001; Francis & Kaldor, 2002; Houtman & Mascini, 2002; Kelley & De Graff, 1997) suggest a widespread shift in religious thought on a massive scale within the West that demands empirical attention for any connection it might have with human wellbeing. Attention to belief in God and alternative conceptions of the divine provides a clear demarcation between varieties of spirituality that maintain ties with traditional religion and those that differ from religious tradition at a fundamental level. This approach serves to bypass the conceptual overlap that currently exists between the concepts "religion"

and “spirituality”, and thus holds potential as a means to differentiate those with a traditional religious orientation from those whose beliefs are aligned with the New Spirituality.

While there is clearly a need to investigate whether traditional and non-traditional forms of religiosity are differentially related to mental health and social behaviour, it cannot be assumed that any differential relationships that might be observed are directly related to traditional and non-traditional religious/spiritual beliefs themselves. It may be that religious influences operating during the developing years help determine the uptake of traditional or non-traditional religious/spiritual beliefs in the first instance, and that these influences are more strongly linked to mental health and social behaviour in adulthood, than are the religious/spiritual beliefs and practices of individuals once they reach adulthood. No single study appears to have examined the relative contributions of traditional and non-traditional religious/spiritual beliefs, church attendance, and religious background to health outcomes thus far, and this thesis seeks to fill this gap in the literature.

Since there is currently little consensus about the meaning of the terms religiosity, religion, and spirituality, it is important to identify how these terms are conceived for the purposes of this thesis before outlining the objectives of the current study. Firstly, *religiosity* is conceived to a generic term that refers to the beliefs, activities, and commitment associated with the search for the sacred. This definition captures all those who derive ultimate meaning from something beyond everyday mundane experience, regardless of whether this meaning is derived from a belief in God or some alternative belief in a universal force, power, energy, spirit, forces of nature, or abstract concept such as love. *Spirituality* is conceived to refer to “the human dimension that transcends the biological, psychological, and social aspects of living” (Mauritzen, 1988:118) and “whatever people do to attain a variety of goals, such as meaning in life, wholeness, interconnections with others, truth, and one’s own inner potential” (Zinnbauer, Pargament, & Scott, 1999:902). *Religion* is conceived as “a system of beliefs in a divine or superhuman power, and the practices of worship or other rituals directed towards such a power” (Argyle & Beit-Hallahmi, 1975:1). Spirituality is thus differentiated from religion by being a broader concept that does not rely on notions of divinity or particular practices such as worship or rituals. The descriptor *religious/spiritual* is now commonly used as an umbrella term that encompasses both religion and spirituality, and its acronym “R/S” is used throughout the remainder of this thesis.

The focus of the current study

This study has multiple objectives. The meeting of these objectives has the potential to further understanding of the extent that R/S factors are linked to mental health and social behaviour in young adulthood, and to inform theory building in the area of religion, spirituality, and health. This study takes a sociological approach, using data derived from a large young adult sample, to answer the following four research questions:

- (1) Do significant associations exist between measures of religious background in an individual's early years (including maternal belief in God, maternal frequency of church attendance, and maternal religious affiliation) and traditional and non-traditional R/S beliefs and frequency of church attendance in young adulthood?
- (2) Are indicators of young adult religiosity (traditional and non-traditional R/S beliefs, and frequency of church attendance) and religious background (maternal belief in God, maternal frequency of church attendance, and maternal religious affiliation) differentially associated with young adult anxiety and depression?
- (3) Are indicators of young adult religiosity and religious background differentially related to delusional ideation in young adulthood?
- (4) Are indicators of young adult religiosity and religious background differentially associated with externalising behaviour (measuring intrusive, aggressive and delinquent behaviour) in young adulthood?

Examination of the extent that maternal religiosity predicts offspring religiosity will allow determinations to be made about the extent that religious influences operating during the developing years might steer young people towards traditional or non-traditional R/S beliefs, and attending church services in young adulthood (research question 1). Attention to young adult religiosity and religious background, and their respective associations with young adult mental health and behavioural outcomes (research questions 2, 3 and 4) facilitates examination of two different approaches to the divine and the disparate worldviews each implies, as well as current involvement with traditional religious organisations and religious background, for their connections with three domains of mental health. Two of these domains involve outcomes of interest that figure prominently within the extant literature on religion/spirituality and mental health, namely affective disorders and antisocial behaviour. Attention to the other domain,

delusional ideation, normally investigated within the field of psychiatry, provides a means to assess the patterns of thinking that are associated with religious background, contrasting R/S beliefs, and church attendance. Members of new religious movements (NRMs) have been found to have high levels of delusional ideation and there have been calls for more research in this area in order to determine whether new forms of religiosity give rise to idiosyncratic beliefs or vice versa (see Peters, Day, McKenna, & Orbach, 1999). Together, these three domains provide an opportunity to investigate connections between religion and spirituality, and important indicators of mental, emotional and behavioural wellbeing within a contemporary Western setting.

In order to give context to the objectives of the current study, Chapter Two provides a detailed account of empirical evidence related to religious affiliation, church attendance, religious and spiritual beliefs and practices (including those that are “New Age”) and paranormal beliefs and experiences. The bulk of this evidence is based on populations within the United States and Australia, but also includes empirical data gathered in the United Kingdom, Canada, the Netherlands, and cross-nationally. The content of Chapter Two serves to highlight the complex nature of the contemporary religious milieu. Attention to this body of evidence is necessary to identify why traditional measures of religion alone, such as religious affiliation and church attendance, as well as single measures of religiousness/spirituality, have little capacity to further our understanding of the nature of religiosity as it exists today, or its connection with mental health. The emergent patterns of beliefs and practices identified in Chapter Two suggest the need for innovative approaches to the study of religion and spirituality, so that insight can be gained about the potential benefits and harms that might be associated with disparate forms of contemporary religiosity in the West.

Subsequently, Chapter Three focuses on the religion-spirituality nexus so that the connections and disconnections between these two concepts are understood, before giving detailed attention to the New Spirituality and its characteristics. Theoretical perspectives that are related to religion, spirituality, mental health and social behaviour are then outlined so as to highlight the theoretical underpinnings of the current study. Towards the end of Chapter Three, some discussion is devoted to current debates within the study of religion and health, since these have direct bearing on the methodological approach used in this thesis and the implications of its findings.

The empirical literature pertaining to spirituality and religion, and anxiety, depression, antisocial behaviour and delusional ideation is reviewed in Chapter Four, and serves to highlight that much of the available empirical literature rests on investigations into religion and

not spirituality. Chapter Four also identifies that the majority of studies into religion rely on data gathered one or more decades ago and do not consider those within the population whose style of religiosity falls outside a traditional religious purview; raising doubts about their relevance to a contemporary context. The methodological approach being used in the current study is discussed in Chapter Five. Findings from this research are reported in the results section, Chapter Six. The results and limitations of this study are discussed in Chapter Seven. Finally, Chapter Eight focuses on the implications of these findings for theory building and future research in the area of religion and spirituality.

My personal experience of religion and spirituality has informed the design and aims of the current study, as well as the interpretation of findings from my research. Thus, a brief outline of this experience is provided below, as a means of identifying my personal interest in the current investigation.

I describe myself as an agnostic; though this description fails to capture the influence that religion and spirituality have both had on me over the course of my life. My father was an atheist and religion seemed to play little part in his upbringing or the lives of his family of origin. By contrast, my maternal grandfather was a Lutheran pastor. He died the year before my birth, but the Church remained of central importance in my grandmother's life and her influence largely determined my mother's involvement in the church up to her fifties, and that of my siblings and me during our developing years. After leaving my family home in 1974, my involvement with mainstream religious institutions was restricted to attending weddings, funerals, and the occasional baptism, at an assortment of Catholic and Protestant churches, and attendance at some Jewish celebrations. Despite my mother's strict Lutheran background, her interest in things religious extended well beyond church teachings and she gathered an extensive range of books related to mysticism, spirituality, and the occult from around the time of the late 1940s to the present. She was actively involved in various spiritual and spiritualist groups in the 1960s, and attended a wide range of seminars and lectures provided by organisations and individuals associated with the alternative health, New Age and Human Potential movements from the 1970s onwards. Having read some of my mother's books in the early 1970s, I became interested in spirituality, since it seemed to offer a way of understanding life and its purpose, that was unconstrained by religious doctrine and dogma, and which seemed to me to be free of the bigotry, narrowness of thought and vision, and out-dated and meaningless rituals that I perceived to be characteristic of mainstream religion at that time. In particular, spirituality seemed to represent a belief system that promoted inclusiveness rather than exclusiveness, since it did not appear to sentence anyone to "eternal

damnation and hell-fire” or stereotype others because of their beliefs, practices, culture, class, gender, or behaviour.

My marriage to a New Age/Human potential entrepreneur in 1978 exposed me to a wide range of groups and individuals working within the alternative health, New Age, and Human Potential movements in Australia, the United States, and the United Kingdom. It also placed me in the position where I had to entertain international speakers and authors working within these movements in our home during their speaking tours in Brisbane. By the early 1980s, I had growing concerns that these three movements together (arguably a single movement since they appear to be strongly intertwined) actually represented a new form of “religion” that had its own forms of religious authority, doctrine, and dogma. Rather than resting on traditions based on a set of moral values and rules for behaviour modelled on some exceptional and outstanding human being and their demonstrated wisdom, compassion, sense of justice, empathy and understanding however, this new religious form seemed to borrow at will from multiple religious traditions, as well as from the field of psychology. Beliefs and practices taken from Jungian theory, Freudian theory, cognitive-behaviour theory, and Maslow’s theory of the hierarchy of needs also featured within this eclectic mix. Moreover, this borrowing from different religious traditions meant that no single tradition was adopted in its entirety. Particular beliefs and practices appeared to be selected from a range of traditions and embraced for either a short or a long period, with these often being replaced by other beliefs and practices, according to what individuals perceived to be relevant to their spiritual growth at a given stage.

While this new form of “religion” certainly seemed to me to lack any formal, unified organisational structure or leadership, it nevertheless had its own form of hierarchy. I witnessed the development of many centres and groups, with a range of individuals achieving leadership status by promoting their own brand of “spirituality”, “truth”, and means and methods for gaining self-enlightenment, healing, a sense of connection with the universe, and/or “wholeness”. These individual leaders commonly used personal stories of triumph over adversity (such as chronic illness, cancer, disability, poverty, depression, anxiety, loss of a loved one, victimisation, and so on) to support claims that their “means and methods” really “work”. Despite the apparent differences between the means, methods and objectives promoted by individuals and their followers, “spirituality”, “finding inner truth”, “unlocking inner potential” or some variant term or phrase appeared to be common parlance. The terms “non-denominational” and “non-religious” were also used intermittently to assure the anti-religious within audiences that their involvement was in no way connected to any mainstream

religion. Few leaders or followers seemed to self-identify with the term “New Age” directly, with many actually distancing themselves from the New Age movement and choosing instead to describe themselves as “spiritual, but not religious”. Even though various authors have identified the New Spirituality as portraying human beings in an optimistic fashion, my observation has been that there is a tendency for those involved in this “new religion” to demonise others by labelling them “non-spiritual”, “unenlightened”, “negative” or “driven by personality and not spirituality” – thus giving rise to a new form of prejudice and bigotry. It also became obvious to me in the early 1980s that this new “religion” involved the “selling” of spiritual beliefs, practices, and transcendent experiences, for personal profit and the amassing of substantial personal wealth. While mainstream religious institutions have been criticised for their capacity to accumulate wealth, the New Age/Human Potential/alternative health movement/s appeared to give *individuals* the opportunity to gain considerable financial profit from their activities. My experiences suggested to me that the rise of the New Age, Human Potential, and alternative health “movements” represented a groundswell attempt to overthrow mainstream values and traditions for an alternative utopian ideal, and that many of those involved were fast becoming the subject of their own critique. Champions of the “new way of being and living” and their followers seemed to me to be little different to those they sought to depose, with the seeking of power and wealth figuring just as strongly in this new approach to living, as it did the “old”. In addition, these new shared beliefs appeared to be instrumental in creating fertile ground for forms of inner turmoil and social conflict that appeared in essence, little different to those often attributed to the machinations of mainstream religion by anti-religionists, and to society more broadly by those who take an anti-establishment approach to mainstream authority, hierarchy, rules and regulations.

Robert Bellah (1970:44) argued more than three decades ago that the chief characteristic of the modern religious situation is that “culture and personality themselves have come to be viewed as endlessly revisable”. He foresaw this newfound freedom from the constraints imposed by religious doctrine, as giving rise to enormous possibilities for both “pathological distortion”, and “unprecedented opportunities for creative innovation in every sphere of human action” (Bellah, 1970:44). In agreement with Bellah’s prediction, my interest in studying religion and spirituality is to explore how and why these contrasting trajectories are set in motion.

The current investigation has the potential to contribute to the study of religion and spirituality in several important ways, and these are identified in the following discussion.

The significance of the current study

This study addresses several key issues identified repeatedly within the academic literature as creating ongoing difficulties for those attempting to interpret research evidence related to religion and spirituality.

Firstly, the current study takes an approach that differentiates individuals according to the nature of their R/S beliefs and thus avoids the conceptual problems associated with the constructs *religiousness* and *spirituality*.

Secondly, few recent studies of religion and spirituality have had access to longitudinal data from which to assess whether individuals' current religiosity is more or less salient than religious background to mental health and behavioural outcomes. This study has the capacity to examine both current religiosity and religious background and thus allows comparison of their connections to these outcomes from data gathered cross-sectionally and longitudinally.

Thirdly, the use of cross-sectional and longitudinal data from a large community sample allows examination of the extent that young adult demographic and health-related behaviours, prior mental health and behavioural problems, as well as family socio-demographics confound any observed associations between traditional and non-traditional R/S beliefs, frequency of church attendance, and mental health and social behaviour in young adulthood. The capacity of this study to control for the influence of prior mental health and behavioural problems allows inferences to be drawn about the direction of any associations found between R/S beliefs and mental health and social behaviour in young adulthood, although these inferences necessarily remain tentative. The heavy reliance on cross-sectional data among previous studies that have examined religion and spirituality and mental health outcomes precludes determinations being made as to whether or not observed associations might be causal in nature – leaving the puzzle of whether mental or emotional problems precede or follow particular R/S beliefs and practices unresolved. In addition, previous studies have rarely used large community samples that involve a cohort of female and male young adults in order to examine associations between religiosity and mental health and social behaviour. Evidence from many studies that examine religion and spirituality is based on biased samples, such as undergraduate students or convenient samples from religious settings. This study can thus make a valuable contribution to the empirical literature on religiosity, and mental health and social behaviour for the early adult stage of the life course.

Fourthly, this study holds potential to inform the way educators, researchers, medical practitioners, psychiatrists, and community members conceive religion and spirituality.

Zinnbauer (1999:902) notes that both popular and scientific writings appear to be crediting spirituality as embodying the “highest in human potential and the loftier side of life”, while religiousness is “denigrated as mundane faith or as institutional hindrances to these potentials”. This tendency to see spirituality in a positive light and religiousness as a negative influence is curious, given that there is no consensus as to how religiousness or spirituality should be defined or how they differ from one another (Hill, Pargament, Hood Jr, McCullough, Swyers, Larson et al., 2000; Zinnbauer, Pargament, & Scott, 1999). Thus definitional problems alone undermine the legitimacy of regarding spirituality as “good” and religion as “bad”, before even considering the available evidence related to these subjects. Since the current study investigates two different belief systems and does not use a conflated measure of religiousness/spirituality, it has the potential to detect differential outcomes according to contrasting conceptions of the divine and provide some insight about whether a “non-religious” spiritual approach is connected to better or worse outcomes than a traditional religious/spiritual approach. Thus, the findings may provide grounds for people to re-assess any preconceptions they hold about the “goodness” of spirituality and “badness” of religion, and raise awareness that conceiving them as dichotomous entities is an overly simplistic conceptual approach to complex phenomena.

Finally, juxtaposed with the polarisation of views about religion and spirituality described above, the religious and spiritual beliefs of patients are now being promoted as an aspect that psychiatrists and other clinicians need to consider when devising treatment plans for their patients (Blass, 2001; Koenig & Larson, 2001). Religion and spirituality already feature in medical practitioner training curricula in the United States (see Larson, Larson, & Koenig, 2001:9). Given that there is currently little empirical literature that directly compares the mental health of those with traditional religious beliefs with those who embrace non-traditional beliefs, clinicians currently have a poor evidence base from which they can gain insight about the potential benefits or harms to mental health that might be associated with non-traditional belief systems. In addition, the nature of the contemporary religious milieu is so complex that educators and clinicians alike may find it difficult to comprehend the diverse religious/spiritual beliefs and practices that are currently endorsed among the general population that may well be influencing patient compliance with treatment and patient recovery. The current study offers an avenue for assessing outcomes for those who endorse beliefs that are characteristic of New Age thought and embraced by numerous spiritual groups, organisations, and individuals. The findings will serve to increase the body of evidence related to religiosity and mental health within a contemporary setting and may thus assist

clinicians in making determinations about the potential benefits and harms associated with new forms of religiosity when dealing with their patients.

The following chapter highlights that non-traditional forms of religiosity are now commonplace and therefore require due attention in investigations examining connections between religion, spirituality, and mental health.

Chapter Two: The contemporary religious milieu

The unprecedented shift in religious belief and practice in recent decades within Western societies, is clearly visible and has led to the development of a religious milieu that is difficult to either describe or explain. Changing patterns in religious affiliation with Christian and non-Christian denominations, differential patterns of participation in church or religious activities between mainstream Christian and Charismatic churches, the use of the term “spirituality” as a substitute word for “religion” in both secular and religious contexts, as well as increasing levels of privatised religion, have given rise to the circumstance where traditional measures such as religious affiliation and church attendance are rendered all but useless in distinguishing the ‘religious’ from the ‘non-religious’. New approaches to the study of contemporary religiosity are therefore needed if its connection to population wellbeing is to be properly understood. Attention to available data on religious affiliation and church attendance, as well as that related to contemporary conceptions of the divine, New Age beliefs and practices, and paranormal beliefs lends support to this argument.

Data related to religious affiliation and church attendance

Religious affiliation

Australia is described by Bouma (1998:203) as “one of the most culturally and religiously diverse nations in the world” and he notes that apart from Aboriginal religions, most religions in Australia originated in other countries, and any new religions in Australia are the result of cultural diffusion – the process by which beliefs, values and practices originating in one place and time are adopted at other places in time. Upon comparing the various categories of religion identified within the *Australian Standard Classification of Religious Groups* (ASCRG) in 1991 and in 1996 (ABS, 1996), it becomes clear that the religious landscape in Australia is increasingly diverse. A number of religious classifications that existed in 1991 have now been sub-classified into multiple categories, and new religions have been included in the 1996 system of classification. The singular categories for Churches of Christ, Apostolic Church, United Pentecostal Church, Christian Revival Crusade, and Macedonian have each been subdivided into two separate categories, the singular categories Congregational, Assyrian Church of the East, Reformed, Unity and Worldwide Church of God further subdivided into three separate categories, other Oriental Christians and other Orthodox into four separate categories, other Pentecostal churches into five separate categories, other Protestant into six separate categories, and other Christian into nine separate categories. The other Non-Christian

category now comprises 14 separate classifications, including Hinduism, Confucianism, Taoism, Shinto, Tenrikyo, Druidism, Wiccan/Witchcraft, Nature religions, Zoroastrianism, Satanism and several sub-categories of religion that were inadequately described on census forms. The 1991 category of Inadequately Described has been broken down into nine separate classifications including Christianity, Reformed, Rhema Family Church, Ancestor Veneration, Spiritualism, Theism, Eckankar, Religious Belief, and Humanist/Materialist, which is subdivided into three sub-categories including no religion, Humanism, and Rationalism. There are now 107 separate religious affiliation classifications within the 1996 version of the *ASCRG* (ABS, 1996).

In Australia between 1963 and 1971, the proportion of Australians stating an affiliation to some type of religion remained stable at slightly less than 90 per cent, declined by 1976 to 80 per cent, and in 2001, 74 per cent of Australians aged 18 and over reported being affiliated with a religion. Between 1971 and 2001, those affiliated with Christianity fell from 86 per cent to 68 per cent while those affiliating with non-Christian religions rose from 1 to 5 per cent, predominantly due to increases in affiliation with Buddhism, Islam and Hinduism (ABS, 2003). While the non-Christian religions only account for a small percentage of religious affiliation overall, it is clear that those affiliated with non-Christian religions is on the increase. In 2001, Wiccan/Witchcraft accounted for the highest proportion of adherents (18.5%) within the Other Non-Christian category (including those who adequately described their religion), followed by Shinto (12.1%), Druidism (8.3%), Taoism (5.1%), and Nature Religions and Satanism each ranking fifth at 4.9 per cent (ABS, 2003).

ABS census data cannot be relied upon however to provide a comprehensive and “true” picture of the diverse range of religions and new religious groups and organisations with which Australians identify. The *ASCRG* must necessarily limit the number of separate categories of religion listed and thus existing categories represent to some degree, bureaucratic decisions about what does and does not constitute a bona fide “religion”. ABS data are also subject to different types of error. For example, the numbers reported by the ABS under the Pentecostal churches category from the 2001 Census were mistakenly included in the “Other Christian” group due to an oversight in census processing, thus inflating the totals for this category and underestimating the Pentecostals within Australia by 75,220 (ABS, 2002). The ABS (2002) confirms having amended this error. It is also unclear what religious affiliation actually means for respondents when they identify with a particular religion. Do they report affiliation with a given denomination based on the religion of their family of origin, on baptismal or confirmation history, or on belief systems that actually steer their moral decisions

and behaviour in their daily lives?

To what extent does bureaucratic decision-making shape religious affiliation data? Some non-mainstream religions are afforded the status of a religion, while others are not. Within the ASCRG, it is interesting to note that although the ABS has included a Spiritualist category for example, in both the 1991 and 1996 classificatory systems, a New Age category is absent in the ASCRG for both 1991 and 1996 (ABS, 1996), whereas in the United States, the New Age is documented as the self-described religion of 20,000 Americans during 1990 and 68,000 Americans during 2001 (United States Bureau of the Census, 2003). One must presume that the New Age is not conceived to be a “religion” by ABS policy makers and that people self-identifying as New Age are simply assigned to one of the “inadequately described” categories². Given that the New Age has no distinct and identifiable organisational structure and is more about the provision of multiple worldviews by numerous entrepreneurs than a unitary set of beliefs or practices, it would seem reasonable that the New Age is not listed as a religious category in the ASCRG. Nevertheless, this means that the number of people who might self-identify as New Age within Australia is unable to be determined under existing ABS policy. An intriguing development at the time of the Census conducted in 2001 also indicates that idiosyncratic responses to census religious affiliation questions are lost from public view due to bureaucratic decision making about what does and does not constitute a “religion”.

A proportion of populations within Australia, Canada and the United Kingdom appear to have attempted to exert pressure on their respective governments to create a new religious affiliation category during 2001. Large numbers of respondents were reported in the public media as having identified their religion as *Jedi*, *Jedi Knight*, or some other Jedi related term in the censuses that took place in Australia, Canada and the United Kingdom that year. An estimated total of 70,509 Australians (0.37%)³, 390,000 people in the United Kingdom (0.7% of the total population, and over 2% in numerous districts) (Office for National Statistics, 2003a), and around 20,000 Canadians⁴ identified their religious affiliation as Jedi in their respective census surveys in 2001. This begs the question of why large numbers of people from these three countries would have responded to the religion item with a term linked to a belief in “the force”, an energy field giving Jedi Knights their power as depicted in the *Star*

² The Australian Bureau of Statistics (ABS, 1996) identifies the criteria on which they base these decisions.

³ Reported by BBC News, 27 August 2002 (British Broadcasting Corporation, 2002).

⁴ Reported by Radio-Canada.ca (Canadian Broadcasting Corporation, 2003) and Canadian Press (2003) on 13 May 2003.

Wars films. This phenomenon is said to have followed worldwide circulation of an email urging individuals to identify their religion as Jedi so as to facilitate its recognition as an official religion (Office for National Statistics, 2003a). While these occurrences have been claimed to exemplify an iconoclastic act, an act of dissent towards government, and/or a practical joke on the part of those declaring themselves as Jedi affiliates (Farlex Inc, 2004), it would seem that Jedi might constitute a form of religious belief for at least some proportion of this group. Indeed, the mass suicide performed by 39 members of the *Heaven's Gate* cult in 1997 (Introvigne, 2002), the teachings of Ron L. Hubbard and his Church of Scientology, which has attracted a worldwide membership (Bainbridge, 2004c), and the widespread popularity of astrology all demonstrate the seriousness that some proportion of the population attach to the notion that galactic phenomena and human experience and destiny are linked – from which they derive some sense of direction and/or meaning. Contrary to the apparent objectives of those who responded with a Jedi-related term to the religious affiliation items on the 2001 censuses in the UK, Australia and Canada (according to the public media), Jedi has not gained status as an official religion in either Australia or Canada. In Australia, Jedi responses were assigned to the “not defined” category and the ABS issued a special release explaining their position on the Jedi issue, disclaiming that they had “threatened anyone” with penalties for responding to the 2001 Census with a Jedi-related response, though identifying clearly that under the *Census and Statistics Act* penalties of up to \$1000 apply for “knowingly supplying false or misleading information” (ABS, 2001b). In Britain, however, Jedi responses have been included under the “other religions” category, with statistics on Jedi affiliation within the United Kingdom being readily available to the public (Office for National Statistics, 2003a).

In the United Kingdom, census data gives no indication of changes in religious affiliation over time. In fact, the 2001 Census was the first census which included a religious affiliation item (Office for National Statistics, 2004). Census forms provided a limited range of religious faiths, namely Christian, Buddhist, Hindu, Jewish, Muslim, and Sikh, with free space being provided for a written response for those affiliated with some other religion (Office for National Statistics, 2004). In 2001, 76.8 per cent of the population in the UK reported some religious affiliation (71.6% Christian), while 15.5% stated that they had no religion. Some 7.3% of the population failed to respond to the religion item (Office for National Statistics, 2003b).

In the United States, levels of self-described religious affiliation appear to be higher than they are in either the United Kingdom or Australia. However, it is worth noting that the United States government is prevented by the American constitution from including religion items in census surveys. Thus the gathering on religion-related data rests on that obtained

from surveys, Gallup polls, and records kept by religious organisations - data that are not directly comparable to data derived from nationwide censuses. According to findings from the *American Religious Identification Survey* (ARIS) 2001, there was a substantial decline in the proportion of the American population identifying with Christianity between 1990 and 2001, and a substantial increase in those not identifying with any religion. Specifically, there was a ten per cent decline in those affiliated with Christianity between 1990 (86.3%) and 2001 (76.7%), a slight increase in those affiliated with non-Christian religions (3.3% in 1999; 3.7% in 2001), and a six per cent increase in those unaffiliated with any religion (8.2% in 1999; 14.2% in 2001) (United States Bureau of the Census, 2003).

Despite observed declines in religious affiliation in Australia and the United States, it remains that the majority of these populations, as well as those living in the United Kingdom, appear to maintain some religious affiliation. However, when church attendance is considered, one is left to conclude that religion is an increasingly private affair; individual religiosity is increasingly independent of any tangible involvement with religious organisations or institutions.

Church attendance

The United States is often identified as standing apart from the rest of the developed world because it alone is claimed to have maintained high levels of church attendance. Results from the Gallup Organisation survey of Americans in 2002 indicated that 42 per cent of Americans attended church or synagogue each week (Princeton Religion Research Center, 2002). However, these figures have been disputed by Hadaway and Marler (2005), who considered estimates of total religious organisations throughout the United States, known population values for church attendance, and sample-based attendance counts. Using this approach, Hadaway and Marler estimate that weekly church attendance in the United States is likely to be as low as 22 per cent. A Gallup poll conducted in late 1999 showed that 30 per cent of Americans described themselves as 'spiritual' but not interested in attending church, and that 54 per cent described themselves as being religious; yet 45 per cent of this latter group also reported they were "more likely to follow their own instincts than denominational teachings"⁵. Thus church attendance measures are likely to be a poor indicator of the extent that churchgoers adhere to religious doctrine, beliefs and practices.

⁵ USA Today-CNN-Gallup poll for December 1999, as reported in Religion Today on 29 December 1999 (Cable News Network, 1999).

Recent findings from a study conducted by Arnett and Jensen (2002) provide insight into the nature of contemporary religiosity among young American adults living in the Midwest (N=144). Self-report questionnaire and interview data obtained from 21 to 28 year olds indicate that despite 64 per cent of the sample reporting that they had been brought up to believe in a particular set of religious beliefs, their current belief systems were distributed fairly evenly across four distinct categories (24 % Agnostic/atheist; 29% Deist, including spirituality, a non-religious belief in God, and individualised beliefs drawn from witchcraft, Eastern religions, and popular culture; 26% Liberal Christian; 22% Conservative Christian). Arnett and Jensen (2002:464) highlight that many of their study's respondents appeared to conceive participation in religious institutions as an "intolerable compromise of their individuality" and conclude from their findings that overall, these young adults appear to prefer to operate as a "congregation of one".

In Australia too, one could interpret religious affiliation data as indicating that Australian society remains largely 'religious'. However, church attendance figures highlight that in terms of religious practice, less than one quarter of the Australian adult population go to church or participate in religious activities. In 2002, only 23 per cent of those surveyed had participated in church or religious activities in the three-month period prior to interview⁶ (ABS, 2004b). Estimates based on data gathered by the *National Church Life Survey, 2001* indicate that weekly church attendance among Australians is as low as 8.8 per cent (Bellamy & Castle, 2004).

The overall decline in church attendance in Australia is largely due to reductions in attendance at church services held by mainstream Christian denominations. *Increased* church attendances have been observed for denominations associated with the Charismatic movement⁷ however. Findings from the *National Church Life Survey, 2001* indicate that within

6 Although church attendance tends to increase with age among the Australian population, the lowest rate of church attendance was found among 25 to 34 year olds (19.4%) and the highest rate among 65 to 74 year olds (27.1%) according to the General Social Survey, 2002. Church attendance among 18 to 24 year olds was estimated to be 19.7%, though this statistic is based on the total population within Australia. Differences in church attendance between individual States within Australia were not reported.

7 The term "charismatic" is somewhat problematic (Robbins, 2004), but is often taken to refer to a range of Christian religions that regard miracles, prophecy, healing, and speaking in tongues as manifestations of the Holy Spirit. Pentecostal churches promote speaking in tongues (or glossolalia) as

Australia between 1991 and 2001 church attendance decreased by 7 per cent among Anglicans, by 18 per cent among Lutherans, by 1 per cent among Presbyterians, and by 15 per cent and 22 per cent among those attending Reformed and Uniting church services, respectively (Bellamy & Castle, 2004). During this same period, large increases in church attendance were observed for the following churches: Apostolic (32%); Assemblies of God (30%); Christian and Missionary Alliance (46%); Church Revival Crusade (12%); and Church of the Nazarene (33%) (Bellamy & Castle, 2004). Although these increases represent fairly modest numbers of conversions when considering the small proportion of church attendance attributed to Charismatic churches since the 1960s, it remains that having accounted for only a small fraction of overall church attendance in the 1960s, by 1996 the Charismatic churches accounted for over 10 per cent of all church attendance, suggestive of a substantial increase in the popularity of the Charismatic movement (Bellamy & Castle, 2004).

Evidence of the increased popularity of the Charismatic movement is not restricted to church attendance data however. The religious practices employed among those affiliated with Pentecostal churches such as *speaking in tongues*, as well as the *Toronto blessing*, appear to have gained favour among a proportion of traditional Christian groups unaffiliated with Pentecostal and other charismatic denominations. According to figures that take into account church attendees across all denominations in 1996, “speaking in tongues” was endorsed by 27 per cent of attendees, with 14 per cent reporting that they had experienced this phenomenon themselves (National Church Life Survey [NCLS], 2004). Ten per cent of those reporting that they speak in tongues were not affiliated with Pentecostal churches but with Catholic, Anglican, Uniting and other large non-Pentecostal denominations. Furthermore, 10 per cent of a sample of Anglican and Protestant church attendees reported having experienced the *Toronto Blessing*. Another 21 per cent of this Anglican and Protestant group agreed that they approved of this phenomenon, 43 per cent were neutral and 36 per cent disapproved (NCLS, 2004). The Toronto blessing, otherwise known as the “laughing revival”, is a ‘spiritual experience’ that emerged in 1994 and spread throughout the world from its host church in Toronto, Canada. By 1998, the host church had attracted over one million visitors (Poloma & Hoelter, 1998). It is claimed that this “revival” has penetrated numerous denominations and that around seven thousand churches in the United Kingdom have reported experiencing something similar to this “Holy laughter” phenomenon (Gilley, 1999).

part of Church doctrine, while other churches associated with the Charismatic movement may forbid or discourage this particular practice.

While in the past, researchers studying the religion-mental health relationship have generally employed methodologies using measures like church attendance and religious affiliation, assuming that these represent some particularised set of beliefs and practices, this assumption fails to reflect reality in today's world. Apart from the issue that individuals are now engaging in religious activities run by churches that they are not formally affiliated with, "switching" from one religion to another is also commonplace (see Warner, 1993). The number of changes in religious affiliation that might take place for a given individual over time raises doubts about the accuracy of interpretations made from religious affiliation data that are based on an assumption of a single change in religious affiliation between two time points such as religion of upbringing and religion at a specific stage in adulthood. The one aspect of religious change that has largely been ignored within the study of religion is the shift away from a traditional belief in God to an alternative conception of the divine.

Traditional and non-traditional religious and spiritual beliefs

Traditional and alternative conceptions of the divine

Belief in God appears to have been replaced by alternative conceptions of the divine by substantial proportions of different populations. These beliefs clearly deviate from traditional religious thought, since they regard ultimate reality as involving a "spiritual" or "higher" power; some sort of depersonalised "energy" or "force". Yet there is a tendency for these two contrasting conceptions of the divine to be treated as if they both represent "belief in God".

Australian data obtained from the *Australian Community Survey, 1998 (ACS)* from a large national sample (N = 8,500) indicates that 74 per cent of respondents endorsed either a belief in God, or a spiritual or higher power, or life force. Thirty-nine per cent agreed that they believed in a spiritual or higher power or life force – notably higher than the 35 per cent who described themselves as believing in a personal God. Yet the NCLS reported that the majority of Australians continue to "believe in God" (NCLS, 2004). These figures are similar to those found for the United Kingdom from survey and Gallup poll data gathered in the early to mid-1990s. At this stage, forty per cent of the British population were estimated to believe in "God as a spirit or life force", while 31 per cent were estimated to believe in a "personal God" (Gill, Hadaway, & Marler, 1998). In the recent *Baylor Religion Survey, 2005*, a nationally representative sample of Americans (N=1,721), respondents were given a range of options for R/S beliefs including belief in God, and belief in a higher power or cosmic force. The same approach to that taken by the NCLS was used in summarising the results from this comprehensive report on American religious belief and practice in relation to the 10.8 per cent of Americans with no

religious affiliation. These two beliefs were referred to in singular terms – “the majority of Americans not affiliated with a religious tradition (62.9%) believe in God or some higher power” (Bader, Dougherty, Froese, Johnson, & Menckson, 2006:12). A figure included with this text however, revealed that 44.5 per cent of religiously unaffiliated Americans in 2005 believed in a higher power, while 11.6 per cent had no doubts that God exists, 4.8 per cent believed in God but “with some doubts”, and 2.1 per cent believed in God “sometimes”. The treatment of belief in God and belief in a higher power as a singular R/S belief in the reporting of these Australian and American findings, contrasts with the way similar data were reported and interpreted in the Netherlands.

Using a representative sample (N=1,848) aged 16 years and over, living in the Netherlands in 1998, it was found that 33 per cent of respondents agreed that “there has to be something like a higher force that controls life”, compared to 27 per cent who held a more traditional belief, namely that “there is a God who personally occupies himself with every human being”. Another 27 per cent were unsure whether “there is a God or a higher force” and 12 per cent were in agreement that “there is no God or higher force” (Houtman & Mascini 2002:462). Unlike the reporting of Australian and American data, these results showing a higher proportion of respondents believing in a higher force compared to those believing in God were interpreted to indicate a shift away from Christianity towards New Age philosophy among the Dutch population (see Houtman & Mascini, 2002).

Two other studies have also treated traditional and non-traditional conceptions of the divine as distinct entities. Rice (2003) found that in 1998, the vast majority of a national sample of Americans (N=1,255) maintained a belief in God (80.6%), while 14.5 per cent endorsed belief in a spirit or life force. Similarly, Kelly and De Graff (1997) reported prevalence rates of traditional and non-traditional R/S beliefs across 15 nations⁸ using data from the 1991 religion module of the *International Social Survey Program* (N=19,528). Considering all of these 15 nations, 15 per cent were found to believe in a higher power of some kind but not a personal God, compared to 34 per cent who agreed that they “know God really exists”. Another 20 per cent agreed that “While I have doubts, I feel that I do believe in God”, 12 per cent rejected belief in God, 10 per cent were unsure if they believed in God, and didn’t believe there is any way to find out, and 9 per cent stated that they believe in God some of the time, but not at other times (Kelley & De Graff, 1997:643). Since this data is now more

⁸ Including Australia, Austria, East Germany, Great Britain, Hungary, Ireland, Italy, Netherlands, New Zealand, Northern Ireland, Norway, Poland, Slovenia, United States, and West Germany.

than 15 years old, the extent that cross-national prevalence rates of traditional and non-traditional conceptions of the divine might have changed during the past decade and a half is unknown.

While disparate interpretations of similar data raise conceptual issues, data from the United States also raise issues related to the measurement of people's conception of the divine. The *Religion and Public Life Survey, 2001*, a national survey of a random sample of Americans (N=2041), asked respondents "If you had to describe God in your own words, what would you say?" (Association of Religion Data Archives, 2001). Respondents could give multiple responses and were prompted by interviewers to give more than one answer. Responses were coded into one-word and group answers. Of the grouped answers (involving at least three descriptors of God; n=1087), the preferred description of God as being a "Higher Power/Supreme Being/ Power" ranked fourth (7.1%), after "Almighty/All-Powerful/ omnipotent" (9.1%), "Creator/Maker/Architect of the universe" (8.3%), and "Love/All-loving/Unconditional Love" (8.2%). More traditional conceptions of God were endorsed by comparatively fewer respondents: "I believe/God is real/He exists" (4.0%, ranking 7th); "Saviour/Redeemer" (2.2%; ranking 11th); and "Father, Son and Holy Spirit/ The Trinity" (0.3%; equally ranked 34th with "She/A Woman/A Black Woman"). Only 2.6 per cent reported that they were unsure if there is a God (or "don't know/no idea"), and just 0.9 per cent reported that they did not believe in God at all (or "don't care/nothing") (Association of Religion Data Archives, 2001)⁹. While this data supports the claim that the vast majority of Americans "believe in God", it also highlights the diverse ways in which Americans conceive "God". In using terminology that includes "God" in lead-in questions, these kinds of surveys are likely to produce results that are to some degree at least, artefacts of the measures used. A recent article published by Michael King and colleagues (2005) highlights the problems associated with attempts to tap the strength of spiritual beliefs that exist outside of traditional religious contexts. In devising the *Beliefs and Values Scale*, King et al. (2005:6) found that "participants expressed difficulty in answering statements in the Intrinsic

⁹ The data were downloaded from the Association of Religion Data Archives, www.TheARDA.com, and were collected by the Pew Research Center for the People and the Press. The variable "descgod1" was analysed to obtain the frequencies reported here (n=1087; missing = 234). Additional variables provided in this dataset (descgod2 – n=552; descgod3 – n=189; descgod4 – n=68; and descgod5 – n=19) represent additional descriptors of God that were provided by respondents over and above those included in the descgod1 variable, and which were also coded into group answers.

Religious Motivation Scale mainly because it too often assumed a religious belief'. Thus, findings from surveys will largely depend on the range of options given to respondents, and reflect the wording used in survey items.

The evidence cited above suggests that non-traditional conceptions of the divine are held by substantial proportions of various populations. Earlier discussion demonstrates that single measures of religious affiliation and church attendance provide no insight into the extent that non-traditional R/S beliefs are embraced by churchgoers and those who report being affiliated with a particular religion. The rise in popularity of New Age beliefs and practices provides yet another example of a trend that undermines any notion that attendance at services provided by a particular religious organisation, or religious affiliation, reflect homogeneity in belief or practice. The New Age movement requires specific attention since its influence appears to be so widespread.

New Age beliefs and practices

Widespread acceptance of New Age beliefs and practices, as well as those associated with the Human Potential movement (which arguably represent the same movement) are likely to have influenced the beliefs and practices of those affiliated, along with those who are not affiliated, with mainstream religious denominations. Large numbers of people are known to endorse New Age beliefs (Burrows, 1986; Chandler, 1988; D'Antonio, 1992; Houtman & Mascini, 2002; Wilson, 1988) and to be consumers of products and materials linked with the New Age and Human Potential movements (Aldred, 2002). Associated products such as self-help books, courses, and a vast range of therapies have flooded mainstream markets providing "how to" approaches for the securing of improvements in life domains as diverse as wealth, relationships, career, and happiness, as well as promised cures for chronic and terminal illness, and ways to gain spiritual enlightenment. James Redfield's (1993) book, *Celestine Prophecy*, which incorporates various facets of New Age philosophy, was an international best-seller for several years during the 1990s. Indeed, Kaufman (1997:v) notes that with the increasing popularity of New Age/How-to books, the *New York Times Book Review* "was obliged to create a splinter category" for the genre of "Advice, How-to, and Miscellaneous" books to prevent traditional non-fiction books from "being altogether bumped from its best-seller list". Kaufman (1997:v) suggests that the popularity of these books is a direct consequence of a spiritual malaise among the American middle class:

The titles in this booming “self-help” genre are often mere come-ons for the more costly emotional liniments peddled by the sages of the midnight infomercial: audiotapes, videotapes, seminars, retreats. Its spiritual void seemingly untouched by traditional religion and the blandishments of prosperity, the American middle class wanders the carnival tent of New Age healers and prophets, hell-bent on buying the happiness that money can’t buy.

Besecke (2005:179) too, notes that Barnes’ and Noble’s 2003 best-sellers list included eight books written by “authors of contemporary wisdom”, that people throughout the world pick up books in stores labelled “Spiritual Matters”, and that interested readers gather together to discuss the ideas contained in these publications.

Apart from the widespread purchase of New Age books and materials, Aldred (2002:65) highlights that “New Age philosophies and methods are gaining inroads into the mainstream corporate world” and that there are an increasing number of “New Money” counsellors employed by successful business people. The infiltration of these New Age philosophies and methods into mainstream America was evident as far back as the 1980s, with management and staff training programs that promote these philosophies and methods being used by large American corporations, the US Army and NASA (Aldred, 2002:66-67). In 1986, the syllabus at Stanford University included a seminar entitled “Creativity in Business” within their business school, focussing on meditation, chanting, dream work, the use of tarot cards, and the “New Age capitalist” (see Aldred, 2002:66; Rupert, 1992:127). Moreover, the academic organisational management literature now identifies the “organisational spirituality movement” as providing a new theoretical model for organisational management, involving practices, beliefs, values, and norms that promote: a shared vision; individual and group transparency; equity and justice; personal consciousness and accountability; ethical clarity and soundness; task significance; individual, organisational, and societal connectedness; inclusiveness; servanthood; empowerment and shared governance; and active individual and organisational spiritual practice and expression (see Quatro, 2004:232). Quatro (2004) traces the development of this “spiritual” approach to organisational management within the academy to the works of Mary Parker Follett (1918), Greenleaf (1970; 1988) and Maslow (1998), because of their attention to the “depth and meaning of human potential in organizational settings” (Quatro, 2004:229). However, it would seem impossible to gauge the extent of influence that New Age/Human Potential entrepreneurs might have had on individuals within the academy who currently promote the spirituality model for organisational management. Nor is it possible to gauge the extent that New Age/Human Potential ideology has infiltrated the consciousness of the general population, through the activities of New Age and Human Potential entrepreneurs within the public domain via workshops and seminars,

and the private domain through consumption of written, audio and visual materials. It is also unclear whether those who have attended workshops and/or seminars or purchased New Age materials even perceive themselves as having been involved in activities associated with the New Age and/or Human Potential movements.

Even though the influence of the New Age movement is observed to be widespread among populations, its lack of formal structure and eclectic beliefs and practices, largely preclude its recognition as an identifiable and discrete group. This creates substantial obstacles to the study of New Age beliefs and practices as objects of study in their own right, thus undermining the making of determinations of their true prevalence within populations. The embracing of all religions within New Age philosophy – “all religions are the expression of the same inner reality” (Heelas, 1993) – makes it possible for religious adherents to incorporate New Age beliefs and practices into their lives while maintaining ties with mainstream religious institutions and settings.

One study of Texan residents in 1998 showed that despite 91.3 per cent of the sample (N=911) describing themselves as being affiliated with mainstream Christian denominations and 90 per cent as being churchgoers, 22 per cent of the overall sample had purchased New Age materials (in the form of books, magazines, audio or videotapes) in the past year. Only two variables, support for New Age beliefs and having friends or relatives who have purchased New Age materials, were found to be significantly associated with the purchase of New Age materials, despite the inclusion of income, education, employment, religious affiliation, and religious participation/church attendance variables into a multiple regression model (Mears & Ellison, 2000). These findings suggest that consumption of New Age materials might now be common across the social spectrum. Almost one third (30.9%) of respondents also reported believing in reincarnation and 28.3 per cent reported believing that the dead could be communicated with (Mears & Ellison, 2000).

In Australia too, it would seem that beliefs and practices that are characteristic of New Age thought were becoming commonplace towards the end of the 1990s. Data from the *ACS* in 1998 indicates that among a national sample of Australians, 27 per cent reported that they believed in reincarnation, 18 per cent agreed that they often or occasionally sought direction from a horoscope, 9 per cent reported that they practiced Eastern meditation, and 7 per cent had used psychic or crystal healing. Two-thirds of the sample also agreed that a spiritual life was important to them (NCLS, 2004). Roof (1993) too, found that many of the 1,599 American “baby boomers” he studied participated in New Age activities, had “defected from religious participation”, and had rejected more traditional forms of worship for a personal

faith characterised by a “spiritual journey” or “spiritual quest”.

Other research conducted by Donahue (1998) examined the prevalence of New Age beliefs among 561 congregations from six denominations across eight regions of the United States. In-depth surveys were administered, with respondents being asked whether they agreed with a number of statements that were conceived to represent New Age beliefs (belief that human nature is basically good; belief in reincarnation; astrology; communication with the dead; belief that meditation and self-discipline will lead to the knowledge that all spiritual truth and wisdom lies within; belief that one is in charge of one’s own life and a person can be anything they want to be; and that individuals should arrive at their own beliefs, independent of any church), and a range of statements related to religious faith. Conservative Southern Baptist Convention members ranked lowest on each of the seven New Age statements, while members of the liberal United Church of Christ ranked highest on four of these statements. However, no significant differences were evident between any of the denominations in relation to the view that one should arrive at one’s own beliefs. Respondents’ age was negatively associated with two beliefs, belief that one could be anything and belief that one could communicate with the dead. The more strongly church members endorsed the item “Salvation refers to the attainment of justice and peace throughout the world”, the more likely they were to endorse reincarnation, astrology and the belief that spiritual truth lies within (Donahue, 1998). Education was observed to be negatively associated with both astrology and the belief that spiritual truth lies within, with the latter also being found to be negatively correlated with a theistic view of God. Overall, this study showed that there seemed to be no cohesive set of beliefs that represented “New Age beliefs”. Beliefs pertaining to the supernatural (reincarnation, astrology, and communication with the dead) were only endorsed by around 10 per cent of this particular sample. However, most notable was that around one third of this churchgoing sample believed that all spiritual truth and wisdom lies within the individual, with the same proportion asserting that the individual should arrive at their own beliefs, independent of the church.

While Donahue’s (1998) study shows that only a minority of this Christian sample believed in communication with the dead (ranging from 3 to 10 per cent across eight regions), more recent data from the *Baylor Religion Survey, 2005* indicates that around 19.9 per cent of the American population believe “it is possible to communicate with the dead” (Bader, Dougherty, Froese et al., 2006). At first glance, this finding seems inconsistent with other population data gathered from the *General Social Surveys* (GSS) from 1984, 1988 and 1989, which indicated that during these years 42.3, 39.9, and 35.6 per cent of the US population

respectively, reported having had contact with someone who had died on at least one occasion in their lives (Laubach, 2004). While this GSS data was collected six to 10 years earlier than that gathered by the Baylor survey and this might explain the inconsistency of their findings, it is hard to imagine that there was an approximate 16 to 22 per cent decrease in belief in communication with the dead among the American population between the 1980s and 2005. These discrepant results are likely to have emerged because the Baylor survey item tapped belief in the *possibility* of contact with the dead at one time point, while the GSS item tapped *personal experience* of that same phenomenon over the whole of the life course. A proportion of people who have experienced contact with the dead at some time during their lives may well decide that this form of communication is “impossible” and attribute this experience to a grief-response or momentary delusion or hallucination, instead of viewing it as “evidence” that communication with the dead is possible.

From the discussion above, it becomes clear that there is considerable overlap between New Age beliefs and paranormal beliefs. Some research has investigated a range of beliefs that fall into each of these categories and these studies are outlined below.

Paranormal experiences and beliefs, and New Age beliefs

The majority of the American population appear to believe that they have had some sort of paranormal experience related to extra-sensory perception, contact with spirits, visions, clairvoyance, or mystical experiences. Only 13.5 per cent of the GSS samples from 1984, 1988 and 1989 (N=3,892) reported “never” having had one of these experiences (27.9 per cent reported having had such occurrences “once or twice”, 40.1 per cent “several times”, and 18.1 per cent “often”) (Laubach, 2004).

A range of different religious and paranormal beliefs were studied by Rice (2003) using data derived from the 1998 *Southern Focus Poll* conducted by the Institute for Research in Social Science at the University of North Carolina. Among this national sample of 1,255, the majority reported that they believe that people on Earth are sometimes possessed by the Devil (58.6%) and in ESP (60.1%), psychic or spiritual healing (58.6%), and déjà vu (69.2%). Furthermore, 40.6 per cent agreed that UFOs were something real rather than a figment of people’s imaginations, 27.1 per cent agreed that they personally had used the power of their own mind to heal their own body, and 42.1 per cent said they believed in ghosts. The vast majority of this sample endorsed a belief in God (80.6%) and 14.5 per cent endorsed belief in a spirit or life force. Younger people were found to be more likely to believe in heaven and hell, extraterrestrials, ghosts, and déjà vu, than older people. However, older people were

observed to be more likely to belief in ESP and to have either used prayer to cure an illness or their mind to heal their body. Better-educated people were significantly more likely to believe in three particular beliefs including ESP, psychic healing and déjà vu. When distinguishing classic paranormal beliefs (astrology, ESP, extraterrestrials, ghosts, psychic and spiritual healing, reincarnation and déjà vu) from religious paranormal beliefs (heaven and hell, Devil possession, God answers prayers), gender was shown to affect belief patterns. Females were much more likely to hold classic paranormal beliefs, with the exception of belief in extraterrestrials, which males were much more likely to endorse. In general, social background factors such as race, education, income and residence were found to be poor predictors of paranormal beliefs in this study (Rice, 2003). The recent study by Bader and colleagues (2006) also found little connection between education and paranormal beliefs and experiences, and that males tended to report having sighted a UFO more than females. However, this study did find that particular paranormal beliefs differed according to income and place of residence. Those with higher incomes were observed to be less likely than those with low incomes to have had prophetic dreams, to believe they had visited haunted houses, to have attempted to contact the dead (via a Ouija board) or to have sighted UFOs. Paranormal beliefs also differed significantly between groups according to whether respondents lived within the East, West, Midwest or South of the United States (Bader, Dougherty, Froese et al., 2006).

Two main hypotheses have prevailed to date about the relationship between religious and paranormal beliefs. One hypothesis suggests that religious and classic paranormal beliefs will be negatively correlated because they represent competing belief systems (Emmons & Sobal, 1981). The other suggests that religious and classic paranormal beliefs will be positively correlated because both sets of beliefs suppose realities that lie outside the realm of scientific investigation or explanation (Wuthnow, 1978). Rice's (2003) findings do not support either hypothesis, suggestive that patterns of belief are extremely diverse and cannot be explained by theories that promote the notion that differing belief systems arise according to a religious/paranormal dichotomy, or that both religious and paranormal beliefs are related because each of their respective foundations reflect a disregard for scientific 'fact'.

Bainbridge's (2004b) research supports the view that there is no simple relationship between religion and paranormal beliefs. He used data gathered from a survey administered on-line via the World Wide Web, entitled *Survey2001*, to test similar hypotheses to those tested by Rice (2003), except that Bainbridge (2004b) sought to determine connections and disconnections between religion and the New Age. The study sample was restricted to English speaking participants who answered all 30 items (N = 3,909), measuring agreement and non-

agreement with statements about technology, and 20 items related to “pseudoscience, para-religion, or what might be called New Age ideology” (including believing in the ancient civilisation Atlantis, in extra-terrestrials, in communication with the dead, that certain instruments can measure the human spirit, and so on). (Bainbridge, 2004b:383). Factor analysis revealed three main factors, including a *General New Age* factor, an *Anti-Paranormal* factor, and an *Anti-Aliens* factor. A complex relationship was found to emerge between conventional religiousness and New Age items. Although there was a strong correlation between frequency of church attendance and prayer/meditation ($r = 0.59$), of the 1,011 respondents who never attend church, only 590 were found to never pray, with 42 per cent of the unchurched group praying or meditating at least occasionally. Involvement with organised religion was found to be associated with opposition to New Age beliefs, but personal religiosity (as indicated by prayer or meditation) was found to be related to endorsement of New Age beliefs. Bainbridge (2004b:393) argues that two competing cultures exist, one being religious and the other not, leaving those people caught between these two cultures with a receptivity to a range of beliefs that have a “deviant” religious character. He concludes that there is a cultural continuity between religion and the New Age, such that “standard churches may inadvertently and inescapably encourage the emergence of competitors who fall outside their own traditions” (Bainbridge, 2004b:393).

The idea that Churches have played a key role in the uptake of New Age beliefs for those whose religious and/or spiritual needs are unmet by involvement with traditional religious organisations is further evidenced by patterns of change in religious affiliation among younger generations.

Intergenerational change in religiosity

It would appear that young people are especially prone to reject religious doctrine and authority (Arnett & Jensen, 2002), to be attracted to NRMs (Kepel, 1991), and to report much higher levels of psychic beliefs and experiences than older age groups (Bader, Dougherty, Froese et al., 2006). Arnett’s and Jensen’s (2002) study showed that 29 per cent of a young American sample have adopted individualised beliefs that borrow from witchcraft, Eastern religious traditions, and popular culture, or embrace a non-religious belief in God or “spirituality”, despite the fact that the majority had been raised in a traditional religion. Gunnoe and Moore (2002) too, found that 32 per cent of a college-aged sample had changed their religious affiliation from the religion in which they were raised.

Young people’s religious/spiritual beliefs are clearly shaped by multiple influences

including family, friends, the process of maturation, teachers, school curricula, the mass media, popular culture, and a nation's culture (Kelley & De Graff, 1997). The extent though, that broad social processes and influences affect young adult religiosity remains unclear. Work by Kelly and De Graaf (1997) however, suggests that national culture has a strong effect on the religious beliefs held by populations. They compared the relative influences of national context and parental socialisation on religious belief across 15 nations, controlling for a nation's level of economic development, exposure to Communism, and an individual's religious affiliation, age, gender and education. They found that within religious nations, national context has a greater influence on children's religious/spiritual beliefs than does family religiosity and that people from religious nations acquire more orthodox beliefs than among similar people living in secular countries. By contrast, they observed that in relatively secular nations, family religiosity strongly shapes children's religious beliefs, while national religious context has little influence (Kelley & De Graff, 1997). Nevertheless, family religiosity and other religious influences in the developing years have been shown to be strong predictors of offspring religiosity during adolescence and in young adulthood when assessed at an individual level. Gunnoe and Moore (2002) for example, found religious schooling during childhood, having friends who attended church in adolescence, and having a mother who attended church and believed religion to be important, to strongly predict a traditional religious orientation in young adulthood (based on a summary measure of church attendance, belief in the importance of religion, and frequency of prayer). Individual intelligence and achievement (cognitive ability and class rank in adolescence), as well as family characteristics (maternal parenting style, family size, and parental divorce) were found to be unrelated to this same outcome (Gunnoe & Moore, 2002).

Maternal and paternal religiosity have also been observed to influence male offspring religiosity in early adolescence in different ways, with fathers being found to have a greater influence than mothers on their sons' church attendance, and mothers to have a greater influence than fathers on their sons' application of religion to their lives (Clark, Worthington, & Danser, 1988).

Apart from the influences of national culture, the mass media, schools, friends, family and so on, one can only speculate about the extent that increased access to the internet is now influencing religious and spiritual beliefs in contemporary society.

The internet and religion and spirituality

The internet provides unprecedented opportunities for the marketing and exploration of

countless religious/spiritual worldviews, with younger generations having access to this medium from the time of childhood onwards. The broad range of worldviews that are being promoted via the World Wide Web is highlighted by recent research conducted by Bainbridge (2004c), using data on religion obtained from the recent internet survey, *Survey2000*, supported by the National Geographic Society. The survey yielded 46,000 adult responses in sentence or paragraph format to the question: “Imagine the future and try to predict how the world will change over the next century. Think about everyday life as well as major changes in society, culture, and technology” (Bainbridge, 2004a:1010). Of the 2,000 distinct ideas about the future identified through content analysis, 100 concerned religion (Bainbridge, 2004a:1010). Responses were categorised into three main themes – religion without science, religion with science, and science without religion. These were subdivided further into multiple scenarios within each of the three main categories.

Scenarios imagined by respondents within the *religion without science* category, included the belief that there will be a revival of conventional faith, a proliferation of NRMs, the growing of a stronger New Age movement, an increase in fanaticism and religious conflict, direct divine intervention (return of Jesus Christ, Armageddon, government by divine intervention, and direct intervention by God and angels).

Responses falling within the *religion with science* category suggested the likelihood that religion and science will work together and religion will become more science-orientated than biblical, with new science-oriented religions emerging from which people will seek “mastery over their own minds, tapping into greater consciousness” (Bainbridge, 2004a:1015). In discussing this domain, Bainbridge (2004a:1015-1017) gives particular attention to the success of Scientology, founded by Ron L. Hubbard, in appearing to bridge the gulf between science and religion by promoting the notion that an individual can “clear” themselves (the attainment of high status through use of a technological confessional device known as the “e-meter”): and speculates that it may be this kind of “science-oriented” religion that will emerge in the future. Bainbridge (2004a:1016) highlights the attraction of Scientology for Americans in particular, noting that of the 15,693 personal websites launched by Scientologists in 11 different languages for members in 45 nations, 55.8 per cent were residents of the United States. Interestingly, Australia ranked fourth among the nations with the highest number of these websites (772), after the United States, Italy (ranking second, with 1154), and the United Kingdom (ranking third, with 1144) (2004a:1016).

The *science without religion* category includes projections into the future which envisage the following changes: science will “discover conclusively that the order to the universe is not

God”; the Christian Church will become “increasingly irrelevant”; Christian beliefs “will no longer prevail”; Judeo and Christian influences will “fade from the political agenda”; “younger people who have grown up in every major religion will question their beliefs and abandon their basic systems”; the world will be “less dependent on God and more dependent on self, as technology has given humans a god-like image”; and that “eventually, religion will be viewed as a harmful nuisance and will be outlawed from society” (Bainbridge, 2004a:1018).

Together these visions of the future exemplify the complex nature of the contemporary religious milieu. They also highlight the disparate values reflected in respondents’ imagined futures for religion, with the polarisation of views about whether religion is “good” or “bad”, the prominence of ways of thinking that are promoted by the New Age and Human Potential movements, the ongoing tension between religion and science, and religious tolerance and intolerance being clearly evident. Even though the *Survey2000* data represent imagined futures by a biased sample and thus provide little insight into the actual future of religion, they serve to highlight that the internet provides a new avenue for communication about religious/spiritual matters between people that is unconstrained by geographic location and reliance on face-to-face encounters. Thus, NRMs like Scientology, traditional religions, cults, sects, and individuals can promote their beliefs and activities to a countless number of potential adherents. While older generations have only had the capacity to engage in religious/spiritual communications of this sort from adulthood, younger generations have had the potential to participate in “on-line religion” throughout the course of their lives.

Summary

The range of data reported in this chapter clearly highlights that traditional methodologies, which make determinations about the influence of “religion” and “no religion”, according to single measures of church attendance, religious affiliation, or “belief in God”, *or* “belief in God or some sort of force or spirit”, ignore the complex nature of religion and spirituality as they exist in today’s societies. Discussion in this chapter has also highlighted that individuals are now free to choose what they do or do not believe, regardless of their affiliation or involvement with traditional religious organisations. Paranormal and New Age beliefs appear to be commonplace across the social spectrum. Consequently, traditional approaches to religion hold little potential for increasing our understanding of the relationship between contemporary religiosity and mental health and social behaviour.

Pargament (2005:681) posits that religious constructs that are relevant to today’s religious landscape might better explain the religion-health connection than either “secular

psychological or social constructs”. Yet even though increased attention is being given to religion and spirituality as factors that have relevance for clinical practice (Blass, 2001; Larson & Larson, 2003), the scientific study of religion/spirituality currently lacks any clear theoretical and methodological approach that serves to further understanding of the nature of the religion/spirituality-mental health relationship. In particular, the possibility that traditional and non-traditional approaches to the divine might be differentially associated with mental health and social behaviour is currently receiving little theoretical attention, as will be demonstrated by the discussion provided towards the end of the following chapter.

Chapter Three: Theoretical perspectives on religion, spirituality, mental health and social behaviour

This chapter outlines the theoretical underpinnings of the current study. Discussion focuses firstly, on the religion-spirituality nexus and highlights the need to differentiate “religious” from “non-religious” varieties of spirituality. Subsequently, Woodhead’s (1993) description of, and explanation for, the development of the New Spirituality are given lengthy attention. Woodhead’s (1993) work identifies the New Age movement as having a primary role in the shift away from religion-based spirituality to a non-religious variety of spirituality. Heelas’s (1993) description of the New Age movement is also discussed in detail as it complements Woodhead’s theory of the New Spirituality and provides insight into the nature of the New Age movement, its ideology, and associated activities. Sociological theories proposed by Emile Durkheim (1952 [1897]; 1968 [1915]), Thomas Luckmann (2003) and Georg Simmel (1997[1898-1918]), and current debates about secularisation theory are then outlined. In combination, the works of these respective authors provide a means of understanding the reasons behind the rise in popularity of the New Spirituality, the worldview it promotes, and why the mental health and social behaviour of those who endorse a non-traditional approach to the divine might differ from those who maintain a traditional belief in God.

Since the psychology of religion has given extensive attention to the religion-mental health relationship, a brief overview of psychological and psychiatric theories is also provided in this chapter. These theories share some common ground with sociological theories in that socio-cultural contexts are considered to be one important dimension of religiosity. Since sociological and psychological perspectives on religion and spirituality are now intertwined with one another (Hill, Pargament, Hood Jr et al., 2000:53) and current debates about how religion and spirituality should be conceptualised and defined are predominantly taking place within the psychology of religion, psychological perspectives warrant due attention in this thesis. These debates identify the study of religion/spirituality as undergoing a theoretical ‘crisis’, as well as numerous issues that need to be borne in mind when considering the empirical evidence on religion, spirituality, mental health and social behaviour that is outlined in Chapter Four.

The following discussion identifies the conceptual overlap between religion and spirituality, providing context to current debates about religion and spirituality and how the

New Spirituality fits into these debates.

The religion-spirituality nexus

The main issue that frustrates attempts to find operational definitions for religion and spirituality, which clearly separate one from the other, rests on the fact that there is considerable overlap between these terms. Even though “spirituality” appears to be seen as meaning the same thing as “religiousness” by some, others appear to view these terms as meaning something distinctly different (George, 2000:103). Indeed, among those who have written extensively about spirituality and religion, definitions for spirituality appear little different from those proposed for religion. Van Ness (1996:2) for example, suggests that being *spiritual* “is an attribute of the way one experiences the world and lives one’s life”. Simmel (1997[1898-1918]:5) defines *religiousness* in a similar fashion:

What makes a person religious is the particular way in which he [sic] reacts to life in all its aspects, how he [sic] perceives a certain kind of unity in all the theoretical and practical details of life.

Although Van Ness (1996:1) distinguishes secular and non-secular varieties of spirituality, by proposing that “secular spirituality is neither validated nor invalidated by religious varieties of spirituality. Its status is related to them but separable”, it remains unclear from Van Ness’s definition what it is that *makes* secular spirituality ‘separable’ from religious varieties of spirituality. Woodhead (1993:177) on the other hand, argues that spirituality is distinguishable from religion in that it is:

...both the belief/awareness that there is some reality more real, more valuable, more important and more extensive than that revealed by science and to the practices by which people get in touch with this reality. I understand it as a more personal and individualistic notion than ‘religion’ which I use to refer to a system of more institutionally embedded beliefs and practices.

The notion that religion is associated with institutionally embedded beliefs and practices, while spirituality is more to do with a belief in a spiritual realm that underlies tangible reality, appears to be the one point of consensus reached by numerous authors, leading to various definitions being proposed for religion and spirituality with this as the key differentiating factor. Yet this demarcation is only useful from a theoretical standpoint and does nothing to progress efforts aimed at distinguishing spirituality from religion for the purposes of creating separate operational definitions for each. The problem remains that those who attend church describe themselves as being “religious but not spiritual”, “religious and spiritual”, and “spiritual but

not religious” (Roof, 1993; Zinnbauer, Pargament, & Scott, 1999). It is the latter group in particular, that creates a conceptual quandary for researchers.

Characteristics of those who describe themselves as being “spiritual *but not* religious” have been identified by Roof (1993). Roof’s (1993) study of a large sample of “baby boomers” indicates that those describing themselves this way are less likely to view religiousness in a positive light, to engage in traditional forms of worship like church attendance and prayer, and to hold orthodox or traditional religious beliefs, and to be more likely to be independent from others, to engage in group experiences related to spiritual growth, to hold non-traditional New Age beliefs, to have mystical experiences, and to differentiate religiousness and spirituality as discrete, non-overlapping concepts, than those who describe themselves as “spiritual *and* religious”. Reliance on single measures of religiosity like church attendance to distinguish the “religious” from the “non-religious” must inevitably lead to the “spiritual but not religious” churchgoers being assigned to a “religious” category along with traditionally oriented churchgoers, thus failing to address the non-traditional nature of this particular group’s worldview. Woodhead (1993) proposes that an individual’s conception of the sacred is a key factor in differentiating spirituality that is traditionally religious in nature from that which is non-traditional, and argues that a non-traditional approach to the divine is the central feature of what she terms the “New Spirituality”.

The New Spirituality

Woodhead (1993) proposes that the term *New Spirituality* refers to religious ways of thinking, as well as beliefs and practices, that are distinctly different from those normally associated with traditional religious thought. These appear to have been adopted by those who are disenchanted with, and/or antagonistic towards, institutionalised religion. Woodhead (1993) identifies four specific characteristics of the New Spirituality that demonstrate how it might be differentiated from the Christian tradition. Firstly, the New Spirituality rejects the foundational Christian belief that God was made manifest in Jesus Christ. Secondly, it rejects the central Christian belief in God’s omnipotence and power, and distrusts “talk of God as ‘King’, ‘Judge’, ‘Almighty’ ”. Thirdly, it rejects Christian beliefs like the Trinity, or conceptions of God as transcendent or personal, and instead sees the divine as impersonal and immanent. Fourthly, the New Spirituality rejects the belief in human sinfulness and instead takes a more optimistic view of human nature, and also rejects the anthropocentric nature of Christian belief that is grounded in the incarnation, resurrection, and existence of a personal God (1993:173). It is the conception of the divine as something impersonal and immanent and different to “God” that serves to identify those whose spiritual beliefs are aligned with the

New Spirituality. According to Woodhead (1993), the rise of the New Spirituality can be traced to a number of movements and groups operating inside and outside of mainstream Christian churches.

Woodhead (1993:174) identifies the writings on spirituality by Matthew Fox, an American Dominican friar, as having had an enormous impact both inside and outside the Church. She argues that in essence, Fox (1983) sees spirituality as panentheistic in nature, that is, viewing the world in a way that sees the whole of the cosmos as being immanent in God, and God's creative energy as being infused in all things. This belief in the "connectedness" of life and the universe and all within it, is also promoted by the feminist spirituality movement as a central feature of spirituality (Woodhead, 1993:170). Woodhead (1993:170) suggests that the feminist spirituality movement and the movement towards a Foxian approach to spirituality, as well as parallel movements outside the church like theosophy¹⁰ and anthroposophy¹¹, have "more or less coalesced in the last few decades to form the New Age movement". Woodhead (1993) notes that both the New Spirituality and New Age philosophy are characterised by radical egalitarianism, where "connectedness" and "wholeness" are regarded as the ideal, where hierarchy and dualism are loathed, and "spiritual power" is seen as the only legitimate form of power and authority. Woodhead (1993:174) views this particular spiritual orientation as being representative of the more counter-capitalist and "alternative wing" of the New Age movement, consistent with the theoretical stance taken by Heelas (1993).

Heelas (1993) argues that the New Age movement involves two distinct trajectories among New Age followers – and it is the characteristics of those who follow these trajectories and the activities they engage in that serve to frustrate attempts to devise a profile of a 'typical' New Ager. Firstly, Heelas (1993) describes the *counter-capitalistic* trajectory (similar to Woodhead's "alternative wing") as encompassing those New Agers who endeavour to "liberate themselves from institutions of modernity, in particular those involving commitment to the materialistic life" (Heelas, 1993:105-106). New Agers following this trajectory are purported to be "self-religionists" and to include those who "drop-out" of society, who travel from festival to festival, who journey to "premodern" enclaves in the East, who practice the

10 Theosophy was developed from the writings of Helena Petrovna Blavatsky, who together with Henry Steel Olcott and William Quan Judge, founded the Theosophical Society in 1875 (see Blavatsky, 1888).

11 Founded by Rudolf Steiner, and also known as Spiritual Science (Steiner, 1998 [1924]).

New Age directly by running spiritual therapies, trainings, workshops, and those who devote themselves to applying New Age principles and practices to change mainstream institutions. Heelas (1993:106) sees this trajectory as representing a reaction to the mainstream and a “hankering for some premodern (perhaps, better, non-modern) sense of the natural”.

By contrast, the *pro-capitalistic* trajectory is conceived by Heelas (1993:107-109) to include those for whom the “unlocking of potential”, “controlling one’s own destiny”, and the “gaining of higher consciousness and attainment of goals” are central concerns. While this wing of the New Age is also seen to be “self-religionist” in orientation, the nature of “self” is not envisaged in a counter-cultural fashion. This particular group of New Agers involves those who have become active in the world of big business; those who see material wealth and prosperity as being perfectly compatible with spiritual progress. Aldred (2002) identifies the Human Potential movement as sharing these same features, raising doubts that the Human Potential movement differs in any meaningful way from Heelas’s *pro-capitalist wing* of the New Age movement. Heelas (1993:109,108) describes this trajectory as “having the best of both worlds”, since it combines a spiritual dimension with instrumentality, and as “very much bound up with the utilitarian dynamics of capitalistic modernity”. It is the two disparate expressions of the New Age movement (pro- and counter-capitalist) that make generalisations about adherents of New Age beliefs and practices so problematic.

Heelas (1993:104) provides a comprehensive list of the New Age lingua franca, as formulated by William Bloom of the New Age St James’s team:

All life – all existence- is the manifestation of Spirit, of the Unknowable, of that supreme consciousness known by many different names in many different cultures
The purpose and dynamic of all existences is to bring Love, Wisdom, Enlightenment...into full manifestation.
All religions are the expression of the same inner reality.
All life, as we perceive it with the five human senses or with scientific instruments, is only the outer veil of an invisible, inner and causal reality.
Similarly, human beings are two-fold creatures – with:
(i) an outer temporary personality and
(ii) a multi-dimensional inner being (soul or higher self).
The outer personality is limited and tends towards materialism.
The inner being is infinite and tends towards love.
Our spiritual teachers are those souls who are liberated from the need to incarnate and who express unconditional love, wisdom and enlightenment. Some of these great beings are well known and have inspired the world religions. Some are unknown and work invisibly.
All life, in all its different forms and states, is interconnected energy – and this includes our deeds, feelings and thoughts. We, therefore, work with Spirit and these energies are co-creating our reality. Although held in the dynamic of cosmic love, we are jointly responsible for the state of our selves, of our environment and of all life.

During this period of time, the evolution of the planet and of humanity has reached a point when we are undergoing a fundamental spiritual change in our individual and mass consciousness. That is why we talk of a New Age...

This form of New Age rhetoric is common to that contained in the many publications that promote the notion of self-help, self-healing, self-empowerment, and self-actualisation that take up shelf space in bookstores around the world. Indeed, Carl Raschke (1996) identifies New Age ideology as being clearly identifiable within Bill Clinton's and Albert George Gore Junior's 1993 election campaign. He argues that most of the American electorate appeared to be hypnotised at that time by Gore's call for the total transformation of American culture and the planet, as outlined in Gore's book *Earth in the Balance: Ecology and the Human Spirit* (Raschke, 1996:204-205). Nevertheless, it remains that the New Age movement is difficult to define. Raschke (1996:207) notes that :

News analysts and armchair sociologists have struggled for more than a decade now to define the New Age phenomenon, which even in the context of its own rhetoric has eluded definition.

Considering Bloom's "New Age creed", it becomes evident that one striking feature of New Age philosophy is its inclusiveness. Different religions are viewed as "expressions of the same inner reality". All life forms are embraced as "interconnected energy", and every human being is regarded as having an "inner being that is infinite and tends towards love". Yet there is an implicit form of hierarchy within New Age belief system. Specifically, there are the "enlightened ones", those who have no need to incarnate – those identified as "well known" among the great religions – and those who are "unknown and work invisibly". It is the belief in "enlightened ones" that gives numerous self-appointed New Age leaders the opportunity to attain guru status among proponents of the New Age. This is one of the many paradoxes of the New Age movement. Even though the notion that "the truth lies within" is held sacrosanct, all manner of products are being promoted as ways in which personal enlightenment can be achieved, with the sellers of these wares often being regarded as having superior knowledge of spiritual matters and the meaning of life.

Aldred (2002:62) describes the New Age movement as a "primarily consumerist movement" that "reinforces consumer capitalist values" and supports this appraisal by drawing attention to the work of Hunt and McMahon (1988). They estimated that by the 1980s, the movement already represented a "burgeoning worldwide supermarket", a "conglomeration of business ventures for marketing spirituality" generating billions of dollars

in sales in the United States, and which gave “every indication of growing faster in the foreseeable future than any other segment of the American economy” (Aldred, 2002:62; Hunt & McMahon, 1988:38).

The emphasis placed on self-empowerment in New Age publications and other materials acts as a double-edged sword. With the individual being conceived as holding the power to change and achieve health, wealth and perfect happiness if they become aligned with universal forces and tap the power of the spiritual realm, the individual also shoulders the responsibility for their failure to meet these objectives. This makes New Age thought particularly attractive to those holding liberal ideals – blame for individual problems is laid on the individual rather than being attributed to anyone other than “self”. Gender, class, race, poverty, and culture do not feature as possible obstacles to personal wellbeing or success. Raschke (1996:215) notes that the preponderance of New Age literature “deals with social, psychological, and political topics, generally with a slant that not too many years ago was referenced as “neoliberal” ”. It is this social, psychological and political content within New Age ideology that raises questions about the influence it has had, and *is* having on the population in terms of mental health and social behaviour.

From Woodhead’s and Heelas’s (1993) writings about the New Age movement, it becomes clear that the ideological underpinnings of the New Age framework of belief is that the “self” is the ultimate authority on the nature of the sacred and it is within this “self” that ultimate truth is recognised and experienced. Though the notion of “connectedness” is also emphasised, this connection is depersonalised in nature and conceived to exist at the non-corporeal level. Colin Campbell (2001) draws particular attention to the individualistic nature of New age spirituality. He argues that the individual remains the basic unit within the New Age theodicy and that there is “little self-transcendence through identification with collectivities” (2001:79). Indeed, his assessment of the New Age worldview suggests that it is anti-establishment in nature through its position involving:

...a condemnation of contemporary, materialist, scientist and Christian-dominated Western civilization as inimical to true spiritual awareness, and hence as being the central obstacle to enlightenment and true spiritual progress (2001:78).

Despite his reference to the condemnation of materialism within a New Age worldview, Campbell (2001), in agreement with Heelas, acknowledges the pro-capitalist orientation of some New Agers. This apparent contradiction is one that pro-capitalist New Agers themselves

appear to have little trouble justifying. There appears to be a tendency for New Agers to be able to separate their own pro-capitalist leanings from the pro-capitalistic nature of Western civilisation by rationalising that money is for them just one form of “spiritual energy” (see Aldred, 2002). Some have argued that contemporary religiosity in general is consumeristic in nature and that this is a characteristic of postmodernity. For example, Davie (2004) suggests that one key difference between religion in postmodernity and religion in modernity is that the former is based on consumption, while the latter is based on obligation. However, the promotion of others’ interests over self-interest and social obligation is a cornerstone of Christianity and other mainstream religions. By contrast, New Age philosophy seems to give obligation little consideration, and instead emphasises self-empowerment, self-actualisation, and the “self” as the primary arbiter of truth and reality. Findings from qualitative research conducted by Possamai (2000) lend support to this view. From analysis of interviews with 39 informants described as proponents of New Age spirituality, Possamai (2000:369) notes that “nearly all my informants locate authority in the religious quest in the inner self” and that informants tended to have an aversion to “any dogmatic message from any authority beyond the self”. Campbell (2001:81) summarises the New Age theodicy as endorsing “a remarkably individualist, a-social ethic”.

It is noteworthy that Campbell’s assessment of the New Age theodicy as being a-social and individualistic, parallels that made by Georg Simmel in regard to Buddhism. Simmel (1997[1898-1918]:160) argued that Buddhism, unlike most Christian culture, lacks social norms because there is an absence of any “correlation between social and religious obligation”. This lack of a correlation between social and religious obligation is the rationale used by Simmel (1997[1898-1918]:160) to conclude that Buddhism is “not a religion”. It is interesting to note that Buddhist beliefs such as a belief in reincarnation and the belief that self-enlightenment removes the need for any future incarnation are both characteristic of the New Age lingua franca as identified by Heelas (1993). Meditation is also promoted strongly within New Age circles. Indeed, New Age beliefs and Buddhism have been grouped together as representative of a specific sub-category under “alternative spiritualities” in the Australian study of spirituality by Kaldor and colleagues (2004). Yet the systems of belief promoted by Buddhism and the New Spirituality are not one and the same. Overall, the Buddhist-like beliefs adopted among Westerners are not linked to familial, ethnic or cultural background, or notions of asceticism, but represent one part of an eclectic mix of various beliefs and practices, borrowed at will from multiple and diverse religious traditions. Woodhead (1993:170) notes that “myths, rituals, gods and goddesses are apparently plucked at random

from available sources” by those who are part of the post-Christian feminist spirituality movement. Yet, self-selection of specific beliefs and practices is not unique to feminist spirituality and is commonplace within the New Age movement more generally. In essence, the New Spirituality is akin to a mass conversion from Christianity to a “self-religionist” state. Any belief and/or practice from any religious tradition can be legitimately adopted, “tried out”, and replaced for some other belief or practice at any time – since “all religions reflect the same inner reality” and individuals are seen as having ultimate authority over what they believe and do. Lyon (1993:117) describes the New Age approach as having:

...little to do with the conventional transcendent monotheism of Christianity and much to do with a marketplace – shopping mall or circus – of religious and quasi-religious elements focused on self and on choice.

Having identified characteristics of the New Spirituality, the eclectic approach to beliefs and practices that is associated with this form of spirituality, the individualistic, consumeristic, and a-social ethic that permeates this non-religious approach to the sacred, the following section identifies the theoretical underpinnings of this thesis.

Sociological theories of religion, spirituality, mental health and social behaviour

The following discussion identifies social theories of religion as providing a theoretical basis for investigating the possibility that mental health and behavioural outcomes differ according to R/S beliefs, church attendance and religious background in today’s society.

Durkheimian theory

Sociologists and historians then increasingly come together in their common affirmation that religion is the most primitive of all social phenomena. It is from it that have emerged, through successive transformations, all the other manifestations of collective activity – law, morality, art, science, political forms, etc. In principle everything is religious (Durkheim, 1982 [1897]:173).

Religion was a central focus for Emile Durkheim in the development of his theory of society. He perceived religion to be a means by which moral frameworks were created, social norms were reinforced, and group solidarity was promoted (Durkheim, 1968 [1915]). The central thesis of Durkheim’s (1968 [1915]) work entitled *The Elementary Forms of the Religious Life*, in which Australian Aboriginal religions were used as an exemplar for his theory of religion, was that religious beliefs and rites are developed by groups as a means to preserve

social order and that religion is fundamental to the preservation of society itself. He referred to the “totemic principle” as being representative of the clan itself:

The god of the clan, the totemic principle, can therefore be nothing else than the clan itself, personified and represented to the imagination under the visible form of the animal or vegetable which serves as totem (Durkheim, 1968 [1915]:206).

For Durkheim (1968 [1915]:209), the totemic principle was not just applicable to what he regarded as ‘primitive’ religions. Rather, he saw it as something that must always “penetrate and organise itself within us” to ensure the survival of individuals and of society.

We now see the real reason why the gods cannot do without their worshippers any more than these cannot do without their gods; it is because society, of which the gods are only a symbolic expression, cannot do without individuals any more than these can do without society (Durkheim, 1968 [1915]:347).

Thus, according to a Durkheimian perspective, religious beliefs are not just important for individuals, but are of paramount importance to the clan, group or society to which an individual belongs.

Durkheim (1968 [1915]) argued that *religious* beliefs and rites are those that are associated with membership to formal organisations, where norms, values, beliefs and practices are shared; giving rise to moral communities to which individuals *belong*. Durkheim (1968 [1915]:16) held that religious beliefs and practices are “collective representations” that require “immense cooperation”, and that they form the basic components of religion. These collective representations were conceived by him as promoting a “collective conscience”. Durkheim (1968 [1915]) distinguished the rites and beliefs that took place within these moral communities from those that exist without the support of a cohesive group or formal organisation, and termed the latter *magic*. Durkheim (1968 [1915]:44) regarded magic as lacking any “binding effect” between individuals, even if it involved as many adherents as those involved in a “real religion”, arguing that no lasting bonds were formed between either the “magician” and the individual, or between these individual adherents. Durkheim (1968 [1915]:44) likened these individuals to the “sick clientele of a physician”, since they might not even know one another or have relations with one another at all. Thus, from a Durkheimian perspective, institutionalised forms of religion serve to strengthen society and the individuals living within it, while “magic” provides neither of these benefits. He justified this argument by

highlighting that there is “no church of magic” (1968 [1915]:44).

Even though Durkheim’s theory of religion has been strongly criticised as involving a circular argument (the sacred is the social and the religious is the sacred, and so the religious is the social), and for being too reductionistic (Pals, 1996:115-117), his study of suicide provided support for his view that religion and societal wellbeing are inextricably linked. His study involved analysis of national European data on cases of suicide and mental illness per 100,000 inhabitants from the latter part of the 1800s. Durkheim (1952 [1897]) found that rates of mental illness and suicide differed according to religious faith. Durkheim observed that Jews had the highest rates of mental illness, that Protestants had slightly higher rates of mental illness than Catholics, but that there was no direct and positive relationship between rates of mental illness and suicide. Durkheim (1952 [1897]:73) showed that although Jews had the highest rates of mental illness, their rates of suicide were the lowest. He found this especially interesting given that Judaism was the one religious faith of those he examined that did not proscribe suicide (1952 [1897]:73). Durkheim (1952 [1897]) also found that Protestants had disproportionately higher rates of suicide than Catholics given their relative rates of mental illness and thus concluded that suicide must be more linked to group norms, experience and ideology than it is to individual mental states. These findings led him to devise a typology of suicide, including four separate suicide types that reflected differing levels of social integration and moral regulation¹². This seminal work remains foundational to contemporary theories that address the social origins of suicide, mental illness and antisocial behaviour, since Durkheim succeeded in showing that “a highly individual and personal phenomenon is explicable through the social structure and its ramifying functions” (Simpson, 1952:10).

While Durkheim (1968 [1915]) also speculated that privatised religion would increasingly replace membership to religious groups, his writings gave this minimal attention. More recently however, Thomas Luckmann (2003) has dealt with this very issue. He tracks religion from archaic times to the present, and in doing so, provides a way of explaining declining levels of institutionalised religion and increasing levels of privatised religion.

The evolution of religion from archaic times to the present

The survival of religion into the present day has led numerous authors to conclude that religion is *intrinsic* to the human condition, and to reject the notion that religion is a mere remnant of past primitive societies, the preserve of the uneducated, the superstitious and the irrational. Luckmann (2003:276) describes the intrinsic nature of religion as follows:

¹² Including egoistic, altruistic, anomic, and fatalistic suicide.

*...religion is **not** a passing phase in the evolution of mankind [sic] but a universal aspect of the **condition humana**. Appearing under different socio-structural conditions in various historical forms, it remains a constituent element of human life, bonding the individual human being, most particularly its experiences of transcendence, to a collective view of the good life.*

In mentioning the “good life”, Luckmann is not referring here to some individually fashioned prescription for personal contentment and happiness, but rather to the sense of morality that guides human action, “a coherent set of notions of what is right and wrong” (Luckmann, 2003:276). Central to Luckmann’s theory of religion and society is the notion that people’s world-views are “constructed as meaningful wholes integrating the sense of diverse levels of human experience”, with this experience being seen to encompass the subjective experiences “of everyday reality” as well as those “of extraordinary realities”. Here Luckmann (2003:277) takes a phenomenological approach in arguing that every normal human being is aware that the world itself (and things within the world) transcends the individual. He regards an individual’s subjective experience of transcendence as taking place at three distinct levels, with two of these being encountered in ordinary everyday experience through the “continuous minor transcendences set by the boundaries experienced by time and space, and the intermediate transcendence defined by the otherness of fellow beings” respectively (Luckmann, 2003:277). The third level involves “the great transcendences experienced in dreams, ecstasies, meditation, extreme pain and in the sight of death” (Luckmann, 2003:277). Collective representations of the “great transcendences” are those that Luckmann (2003:277) identifies as being conventionally viewed as “properly religious”.

Luckmann (2003:277) emphasises that the construction of worldviews, especially their religious core, are influenced by the socio-historical context in which they arise and are determined by different forms of social organisation. Then taking an anthropological approach, he identifies four distinct stages in the evolution of religion from archaic times to the present, each corresponding to particular forms of social organization. Firstly, he argues that in archaic societies, characterised by a simple division of labour, the sacred was based on the entire social structure, with there being little differentiation of religious functions except for the special roles assigned to ancestors, totems, and shamans. Luckmann (2003:278-279) identifies the second stage as taking place about four to six thousand years ago, marked by the progressive functional differentiation of social institutions, an increasing complexity in the division of labour, political organisation, and the formation of social classes. During this stage “religion began to achieve a distinct institutional location in the social order” (Luckmann, 2003:279). During the third stage, greater institutional specialisation was accompanied by

religion acquiring a “visibly separate location in a special set of social institutions”, exemplified by the development of the Christian churches (Luckmann, 2003:279). Finally, Luckmann (2003) suggests that the emergence of a fourth stage in the evolution of religion, which he calls the “privatized, social form of religion”, is now evident. He argues that this stage is characterised by a “genuinely new arrangement of the relation between collective representations and the new social structures” (Luckmann, 2003:279). Characteristic of these new arrangements is the “de-monopolization of the production and distribution of world-views” and development of an “open market”, with collective religious representations being produced and supplied by churches, sects, new religious organisations, New Age commercial enterprises, and the mass media (Luckmann, 2003:279). While it is difficult to know the extent that television and the internet serve to feed privatised forms of religion, through their respective roles in the distribution of R/S worldviews, it is worth noting that religious television programming accounted for just 1 per cent of all television programming in the United States in 1977, and that by 1996, this figure had risen to 16 per cent (Shorto, 1997; see also Zinnbauer, Pargament, & Scott, 1999).

Luckmann (2003:282) defines the new privatised social form of religion as:

*...an **absence** of plausible and generally obligatory social models for persisting, universal human experiences of transcendence and the search for a meaningful life.*

Rather than this fourth stage of religious evolution having emerged as a consequence of “the spread of secularisation”, Luckmann (2003:279-280) conceives that it is the result of the combined influence of functional specialization within the major public domains, the freeing of these domains from traditional religious norms, as well as modern day pluralism that makes different worldviews available to everyone. Certainly, the empirical data discussed in Chapter Two supports Luckmann’s notion of an open market of worldviews. Debates continue among sociologists however, about the extent that secularisation theory is able to explain decreasing levels of institutionalised religion and increasing levels of privatised religion.

The process of secularisation and its influence on religion

During the past four decades, sociological attention on religion appears to have been preoccupied with the process of secularisation and its capacity to explain the gradual disestablishment of church power during the post World War II period, rather than the possible repercussions of this change on the mental health and social behaviour of populations. Yet this preoccupation with explaining the reasons *for* religious change is relevant

to the religion-mental health connection, since disenchantment with religious institutions appears to be a key factor in the shift away from institutionalised to privatised religion. This disenchantment implies changing beliefs, norms and values that have, according to a Durkheimian perspective, direct implications for society in general.

According to the secularisation thesis, the transformation of social structures and political institutions into secularised entities leads to the churches losing power over the public, resulting in less public involvement in religion (Phillips, 2004). While Berger (1968) was a strong proponent of secularisation theory and predicted that by the 21st century religious believers would only be found in small sects within a sea of secular culture, he has since recanted his theoretical position of the late sixties (see Stark, 1999). He now concedes that the importance of religion did not lessen as he had presupposed, once there was separation between Church and State. Religious and spiritual beliefs in some form continue to be held by the majority of populations, and many new religious organisations have developed throughout the West (see Sherkat & Ellison, 1999). In addition, the diminishing power of institutionalised religion observed among mainstream Christian churches over the past few decades has not extended to fundamentalist or charismatic religions (Marty & Appleby, 1991; NCLS, 2004). Pentecostals and charismatics were estimated to number over 400 million worldwide by the 1990s (Cox, 1995).

Following recognition by numerous sociologists that the secularisation thesis failed to explain observed changes in religious expression during the last half of the 20th century, a “new paradigm” of secularisation emerged, largely based on observations of religion in the United States (Phillips, 2004). Within this new paradigm, secularisation is seen to have forced religious organisations to compete with one another for adherents, thus creating a climate where levels of church participation are heightened (Phillips, 2004:139; see also Warner, 1993). However, the competition thesis is inadequate to the task of explaining contemporary religiosity in Western countries like Australia where church attendance levels are low, but the majority of the population report being affiliated with some religion (ABS, 2004b) and having some sort of religious or spiritual belief (Francis & Kaldor, 2002). It may be however, that Australians are participating in the activities of new religious groups and organisations, and that this kind of activity fails to be captured by measures of church attendance. The competition thesis may therefore apply to Australia, but this will remain unclear until empirical data is available that taps involvement with new religious groups and organisations.

While debates about the capacity of secularisation theory to explain patterns of religiosity at the societal level persist to the present (Sherkat & Ellison, 1999) and Luckmann’s

“open market” perspective suggests that it is not just secularisation but the combined influence of both secularisation *and* modernisation that explains contemporary religiosity, Georg Simmel’s writings from around the end of the 19th and beginning of the 20th centuries offer a somewhat different hypothesis about the reasons for religious change.

The conflict of modern culture

Like Luckmann, Simmel (1997[1898-1918]) saw modernisation as being integral to the shift away from institutionalised forms of religion during the 20th century, but held a contrasting view about the mechanisms involved. The difference in Simmel’s explanation rests on his take of what religiousness actually is, as well as the impact of science. Simmel (1997[1898-1918]:5) believed that a state of religiousness is not defined by its content, has little to do with collective representations of transcendence, and is instead “an attitude of soul”, a functional human quality that “entirely determines some individuals and exists in only rudimentary form in others”. Indeed, it is the non-religious in Simmel’s terms (that is, those without an attitude of the soul) that most need religion in order that they gain some sense of moral and social duty. Like Durkheim, Simmel (1997[1898-1918]:156) saw strong connections between an individual’s regard for the sacred and his or her behaviour within society, arguing that an individual’s behaviour towards the “deity” is analogous to his or her behaviour towards society. He believed that the pattern of relationship between a human being and his or her God “unmistakably reiterates the behavioural patterns that exist between the individual and his [sic] social group” (1997[1898-1918]:157). Simmel (1997[1898-1918]:20) also argued that religious changes that have transpired within modern societies reflect the “conflict of modern culture”. Simmel (1997[1898-1918]:20) believed that while science had in no way “deadened” the religious “yearning” because it did not have the capacity to prove or disprove the existence of God, it *had* made people re-evaluate the content of their religious beliefs, thereby leading them to seek different goals and paths. He also argued that because religions that were based on church tradition could no longer be maintained, a persisting religious urge led people to “satisfy their religious needs by means of mysticism” (Simmel, 1997[1898-1918]:20). Even though Simmel’s observations and conclusions are based on events that took place around the end of the 19th and beginning of the 20th centuries, his theory of religious change remains relevant to the present given observed patterns of paranormal and New Age beliefs within the United States in the latter part of the 20th and early part of the 21st centuries (as identified in Chapter Two).

Theoretical framework for the current study

The theories of religion presented by Durkheim, Luckmann, and Simmel and the characteristics of the New Spirituality identified by Woodhead (1993) provide the theoretical framework on which this thesis is based. Luckmann's theory suggests that through the processes of secularisation and modernisation, people are less constrained by traditional religious norms and beliefs, leaving them free to choose from an open market of worldviews to suit their individual needs. Durkheim's and Simmel's respective theories of religion in particular, raise the possibility that this development holds implications for mental health and social behaviour at an individual and societal level, given that contemporary religiosity is increasingly independent of group membership and beliefs and practices are highly individualised. Even forms of religiosity that *do* involve engagement in activities organised by religious organisations cannot be assumed to represent adherence to a particular set of shared beliefs, norms and values, given that there is now an open market of worldviews available to churchgoers and non-churchgoers alike.

Apart from two contemporary social capital theorists, Coleman (1990) and Putnam (2000), little sociological attention appears to have been given in recent years to the possible negative repercussions that reductions in religious membership and more individualised forms of religiosity might have for mental health and social behaviour among populations. Even Coleman and Putnam have given limited attention to this possibility. These two theorists both identify reduced levels of membership of religious organisations as just one indicator among numerous others, of declining community and civic participation in the United States, framing this trend in terms of a loss on social capital within American society. Putnam (2000) raised the question in his book *Bowling Alone* of whether declining levels of social capital might explain increasing rates of depression and suicide among younger generations in the United States. Yet, the shift away from traditional religious thought to alternative belief systems, as well as its possible repercussions for mental health and social behaviour at a population level, were not addressed by Putnam directly. The general lack of interest in the relationship between contemporary religiosity and mental health and social behaviour within the discipline of sociology is nothing new however. Luckmann (1967) noted nearly four decades ago, that although Durkheim (1952 [1897]; 1968 [1915]) and Weber (1930) had both provided theories about religion that could be used to test numerous hypotheses, sociological research into religion had largely been "narrow and trivial" and "regressive" in nature in the post-Durkheimian and Weberian period. This criticism remains pertinent today.

The general disinterest among sociologists in applying Durkheimian theory to

contemporary religiosity no doubt reflects the general loss of favour among sociologists in the 1970s of “evolutionary functionalist theories” and their objection to the notion of a “unified collective consciousness” (Sherkat & Ellison, 1999:364). Paradoxically, the central mantra of the New Spirituality is one of an underlying spiritual connection between all things, and represents a widespread belief in a “unified collective consciousness” of sorts, albeit at the ‘spiritual level’. Despite the individualistic nature of the New Spirituality identified earlier, it remains that the rise of this alternative form of religiosity reflects grand scale dissatisfaction with institutionalised forms of religious authority and dogma and thus a common response of disaffection among the population. Some measure of dissent is also evident among those who maintain involvement with religious institutions as demonstrated by churchgoers claiming the right to follow the dictates of their own beliefs rather than blindly follow religious doctrine or authority. The socio-cultural, political and economic context of this claim to personal autonomy and its promotion within the New Spirituality warrants further sociological attention, given that the rise in individual authority over religious matters has taken place at a time in history when consumerism, capitalism, and individualism are central features of society.

Theoretically, the New Spirituality corresponds to Durkheim’s notion of “magic” and Simmel’s identification of a move towards “mysticism”. Both magic and mysticism represent non-institutionalised forms of religiosity that lack group cohesion, group unity, and group solidarity. The New Spirituality is also consistent with both Luckmann’s and Simmel’s theories about the influence of modernization on the development of privatised forms of religion. On the one hand, it fits Luckmann’s theory that modernization and pluralism has led to an open market of religious worldviews as evidenced by the religious eclecticism observed among those who embrace the particular worldview promoted by the New Spirituality. On the other, Simmel’s notion that the conflict of modern culture has led many to reassess the content of their religious beliefs and seek new paths and goals is consistent with characteristics of the New Spirituality – beliefs that are mystic in orientation, which represent a departure from traditional Christian thought, and which reject religious authority. The ideology associated with the New Spirituality has the potential to translate to differences in mental health and social behaviour compared to traditional religious ideology, because of its individualistic approach and lack of social norms. Several questions arise from this discussion. Are non-traditional R/S beliefs linked to poorer mental health outcomes compared to those who maintain a traditional belief in God? Are those who reject a traditional God and instead endorse a non-traditional belief in a spiritual or higher power more antisocial in their

behaviour than those who endorse a traditional belief in God? Since current trends indicate that those who attend church are now likely to behave according to their own moral dictates instead of being guided by religious doctrine, does church attendance protect against antisocial behaviour in today's world?

While it is unlikely that all those who hold conceptions of the divine as a spiritual or higher power would consciously describe themselves as belonging to the New Spirituality, it remains that this alternative approach to the divine is characteristic of New Age thought. Investigation into the mental health and social behaviour of those who endorse such beliefs provides one avenue to explore connections between New Age thought and wellbeing.

Discussion so far has focused predominantly on religion and spirituality from a social perspective. The psychological literature highlights the possible benefits and harms that may arise from religion and spirituality according to an individual perspective. This literature also provides insight into current debates related to the study of religion and spirituality and reveals the attempts being made currently to address conceptual issues surrounding these terms. Since the bulk of empirical attention given to religion, spirituality, mental health and social behaviour has taken place within the psychology of religion, it is necessary to examine the theoretical perspectives associated with this discipline prior to discussion of the empirical literature related to these topics in Chapter Four.

Psychological perspectives on religion and spirituality

A brief overview of psychiatric and psychological theories is provided in this section, outlining their correspondence and lack of correspondence with sociological theories. Subsequent to this discussion, attention is given to the theoretical 'crisis' that is being faced within the psychology of religion since this has direct relevance for the theoretical approach being taken in this thesis.

The individual approach to religion and spirituality

Traditionally, the main factor that has differentiated psychological theories of religion from sociological ones is their tendency to be far less concerned with broad social processes and social change, and their primary focus being on religion and religiosity at an individual level. However, during the past decade in particular, the social contexts in which religion and spirituality arise appear to be increasingly acknowledged within psychological perspectives, leading to considerable overlap between these two disciplinary approaches (see Hill, Pargament, Hood Jr et al., 2000). Nevertheless, it becomes apparent when reading the

psychological literature on religion and mental health that the importance of religion within a psychological perspective, rests on the ways in which religious beliefs and practices influence an individual's wellbeing rather than the extent that they contribute to overall patterns of wellbeing at a societal level. As a result, there is a tendency within the psychology of religion to view religiousness and spirituality as similar entities, since they both represent a means for individuals to negotiate daily life. This approach serves to de-emphasise the role of broader social processes involved in the uptake of particular beliefs and practices in the first place, and thus the contribution of broad social changes to mental health and behavioural outcomes. In order to understand the present status of psychological theories about religion and spirituality, it is necessary to devote some preliminary discussion to theories relating specifically to the *religion*-mental health relationship to show how the relatively new focus on spirituality has both extended the scope of psychological enquiry and exacerbated the problems that plague the psychology of religion.

Psychological perspectives on religion and mental health and social behaviour

One striking feature of psychological theories of religion is their polarised nature, with some theories emphasising the positive influence of religion and others identifying its negative influence. Krause (1993) argues that the overall influence of religion on mental health can be conceived as being attributable to three main components – the *organisational* component, the *religious beliefs* component, and the *subjective religiosity* component of religion. The theoretical underpinnings of the religion-mental health connection are discussed below according to these three components, with the positive and negative aspects being addressed for each component.

The organisational and religious beliefs components

Positive influence

Psychological perspectives on the *organisational component* of religion share similarities with sociological perspectives, in that they view involvement in religious organisations as providing the individual with both social support and a sense of belonging, with each of these factors being conceived to confer mental health benefits such as protection from affective disorders like depression (see McCullough & Larson, 1999). James ([1902] 1985), in line with social modelling theory, argues that religious icons act as models of charity and altruism, thereby encouraging pro-social behaviour. Different mechanisms are conceived to be involved in the religion-mental health connection in regard to *religious beliefs*, which Krause (1993)

defines as the core beliefs that are associated with a person's religion as well as an individual's perceived relationship with God. Here, a beneficial influence is seen to come from religion's capacity to relieve anxiety about death (Piven, 2003) and from the sense of purpose and meaning it provides individuals, thereby enabling them to cope better than non-religious individuals when faced with stressful circumstances (Silberman, 2005). In addition, Saunders (2002) emphasises religion's capacity to provide beneficial neurological effects, arguing that strong religious beliefs induce positive mind states and that these effects translate to better health.

Freud ([1927] 1961) too, acknowledged that religious beliefs served a useful function, in that they helped individuals to control what he regarded to be an innate tendency towards destructive behaviour, arising directly from sexual impulses and narcissism. Freud ([1913] 1919) conceived God to be a projection of the superego, an imaginary father who reminded individuals of taboos against incest and murder. However, despite his acknowledgment of the positive influence of religion on social behaviour, Freud held a very different view about religion's relationship with mental health.

Negative influence

Freud (1961 [1927]) believed that religion was based on illusion, that the religious inclination represented a psychopathological state, and that through psychotherapy, the religious would eventually discard religion upon realising its illusory nature. This position shows some affinity with that held by Karl Marx (1970 [1818-1883]), who saw religion as being the "opium of the people" and the "sigh of the oppressed creature", with it providing only "illusory happiness". More recently Ellis (1988) also argued along Freudian lines, that the less religious people are, the more emotionally healthy they will be. Ellis (1992:429) regards "pious theistic religion" as being "inimical to mental health in many instances". Beit-Hallahmi (2001:52-53) warns of the dangers associated with religious conversion, and regards all instances of religious conversion as being rooted in psychopathology, with conversion being seen to represent "self-destructive regression" based on an attempt to "cope with reality". A somewhat different approach is taken by Paloutzian and colleagues (1999:1047-48) who argue that religious conversion has minimal influence over personality traits and temperament, but that it can have "profound, life transforming changes in mid-level functions such as goals, feelings, attitudes, and behaviors, and in the more self-defining personality functions such as identity and life meaning". They also suggest that effects are independent of whether "the process of conversion is sudden or gradual, active or passive, and to a traditional Western or Eastern religion or to a new religious movement" (1999:1048).

Joseph (1998:221) identifies a range of harms that have been attributed to religion, based on the writings of Pruyser (1977) including:

...sacrifice of intellect; rationalisation of hatred, aggression and prejudice; thought control and promotion of excessive dependency; surrender of agency, dissociation and disavowal; justification for being judgemental and insensitive to situations; displacement of the body (self-punishment and asceticism); and obsessional thinking (as in guilt).

Support for the view that religion holds potential to cause serious harm comes from observations of numerous instances of homicide and suicide that took place among specific religious cults and new religious movements (NRMs) in the late 1970s, 1980s and 1990s.

These events, which became known as the “cult wars”, include those that took place in Jonestown under the leadership of Jim Jones in 1978, in various locations around the world among members of the *Order of the Solar Temple*, and in California among members of the *Heaven’s Gate* cult, under the leadership of Marshall Applegate (2002). Pruyser’s (1977) range of religion’s potential harms identified above are characteristic of the behaviours observed among those involved in these events. Two main theories have been proposed to explain the violence and death that characterised the cult wars. Firstly, Beit-Hallahmi (2001) argues that cult leaders and cult followers have matching “pathology”. This may explain why cult followers are attracted to cult leaders, regardless of cult leaders’ bizarre beliefs and behaviours, and the willingness of followers to carry out their leaders’ instructions even though these are destructive in nature (Introvigne, 2002). Even though Beit-Hallahmi (2001:55) regards most cult leaders as being “con artists” and “religious hustlers”, he dismisses the notion that cult followers are mere victims of their leaders and assigns responsibility for violent behaviour on both cult leaders and followers alike (Introvigne, 2002). By contrast, brainwashing theory demonises cult leaders specifically. Proponents of brainwashing theory suggest that “nobody can perform such extreme acts as ritualized homicide and suicide without having been brainwashed by an evil guru” (Introvigne, 2002:216). While it could be argued that the violence and death that characterise the cult wars represent an extreme case of religious perversion among a small minority of the religiously inclined, and thus these events are largely irrelevant to religion and spirituality more generally, it remains that the dynamic relationship between religious beliefs and the organisational structure formed around these beliefs (including both leaders and followers) led to these events taking place. Even though brainwashing theories have largely lost favour within academic scholarship, the notion that various revivalists, preachers, and cults use brainwashing techniques persists to the present (Introvigne, 2004). Of course, acts and threats of terrorism that now exist within the

contemporary world serve as a constant reminder of the central role religious beliefs can play in the justification of aggressive, homicidal and suicidal behaviour.

The subjective religiosity component

Positive and negative influences

Krause (1993) defines *subjective religiosity* as referring to levels of religious commitment and its self-perceived importance in people's lives. The positive influence of religious commitment within the family unit has been theorised by Bergin (1988) to lead to better psychological adjustment among children as they reach adulthood. He views positive integration of religion into family life as a source of stability for the developing child. The subjective nature of religiosity is also central to Allport's (1950) theory which differentiates between *immature* and *mature* forms of religion. According to Allport (1950), mature religion serves as an integrative and organising function in the personality, thereby producing a consistent morality. By contrast, immature religion is conceived as being more involved with self-gratification, resulting in a lack of integration of the personality and thus a lack of self-reflective insight (Ventis, 1995). This differentiation between mature and immature religion led subsequently to the development of the two concepts *extrinsic* and *intrinsic* religion. Ventis (1995:35) describes extrinsic religion as religion that is used to gain particular ends such as emotional/social support or social status. By contrast, intrinsic religion applies to those for whom religion is a main motive in life, and for whom religion is internalised and fully lived (Ventis, 1995:35). Consistent with the theoretical framework on which these concepts are based, studies using measures of extrinsic and intrinsic religion have generally found that extrinsic religion is negatively related, and intrinsic religion positively related, to mental health and social behaviour (see review article by Ventis, 1995), thus lending legitimacy to the intrinsic/extrinsic approach to religion.

In combination, the above mentioned theories identify the multidimensional nature of religion. The concept religion has thus attracted substantial criticism from those who believe that religion is too complex to be studied within a scientific paradigm, with some even arguing that the study of religion should be abandoned altogether. Indeed Wulff (1996) stated a decade ago, that the status of the study of religion within psychology was "precarious" and that there were relatively few credible contributors to this field of enquiry. Hill et al. (2000:51) note that although the psychology of religion had impressive beginnings with the pioneering works of William James and G. Stanley Hall at the beginning of the 20th century, it fell from favour in the "heyday of behaviourism" and is "still overlooked, if not bypassed, by the whole

of psychology”. The shifting of focus from religion to both religion and spirituality in recent years means that another dimension has been added to that already studied within the psychology of religion, thus compounding the many conceptual and methodological issues that already surround this area of enquiry.

Spirituality and religion: the theoretical ‘crisis’

With spirituality becoming a whole new focus for investigation within the psychology of religion, Pargament (1999) warned at the end of the 20th century that approaches to the study of both religion and spirituality lacked grounding in either theory or research and that this posed serious dangers for the psychology of religion. Since this time, the empirical literature which examines associations between religion, spirituality, and health has grown, and there is also evidence to suggest that psychiatric patients want clinicians to consider their religious and spiritual beliefs when devising treatment plans (D’Souza, 2002). The growing empirical literature on links between religion/spirituality and mental health, as well as patient demand, both appear to be instrumental in religion and spirituality gaining increasing recognition as a new frontier for research within the mental health domain. Blass (2001:79) for example, has proposed a conceptual framework to facilitate an interaction between the fields of psychiatry and religion in order to “further the care of individuals, as well as to promote research into and teaching of the psychiatry-religion interaction”. However, it remains that research into religion/spirituality is largely evidence-driven, leaving the psychology of religion without solid, coherent theories upon which to base strategies that are aimed at meeting the objectives outlined by Blass. It would seem no exaggeration to suggest that the psychology of religion is undergoing a theoretical ‘crisis’. The development of sound theoretical frameworks for religion *and* spirituality is frustrated by two major obstacles.

Firstly, the myriad ways in which spirituality is conceptualised serve to block consensus on how to define religion and spirituality for research purposes. Unruh, Versnel, and Kerr (2002) examined the ways in which spirituality had been defined within the health literature using electronic databases including Medline, CINAHL, PsychInfo and Sociofile, and found that more than 80 different definitions for spirituality had been used since 1980. The current lack of consensus on how religion and spirituality might best be defined serves to exacerbate the difficulties encountered in interpreting research evidence related to religion, through the need to interpret evidence with not just religion or religiousness in mind, but spirituality as well. As discussed in Chapter One, the lack of conceptual uniformity means that findings based on singular measures of religion/spirituality may be largely uninterpretable because

there is no clear theoretical basis from which to assess the types of mechanisms that might be involved.

Secondly, religion is an emotive topic. Blass (2001) notes that “psychiatric theories about religion have often been founded [more] upon values and beliefs than upon scientific facts”. The threat to objectivity that personal beliefs and values pose to the scientific study of religion and spirituality has also been highlighted by Pargament (1999) and Zinnbauer (1999). Both have warned against the polarization of views whereby religion is conceived as being “good” and spirituality as being “bad”, or vice versa. However, it is doubtful that those who hold strong religious views will heed this warning. For example, researchers Taylor, Mitchell, Kenan and Tacker (2000:425) received comments from Canadian occupational therapists being surveyed about spirituality and its role within occupational therapy like:

I disagree that OTs should discuss spirituality with their clients, unless they are of Christian faith. There are too many religions out there and they mess up people's minds. Jesus is the only True God.

Another respondent stated:

If any therapists are encouraging any spirituality (i.e., New Age, meditation, Moslem, Jehovah's Witness, Mormon, etc.) other than Christ, they are walking in Satanic Spirituality and the forces of evil are alive and well, being encouraged by them. Anything other than Christian spirituality is of the Devil (Taylor, Mitchell, Kenan et al., 2000:425).

If hypothetically, this survey had instead focussed on *Christianity* and occupational therapy, researchers may easily have received comments from those who are antagonistic towards Christianity identifying their disapproval of any Christian beliefs or practices being discussed with clients.

The terms religion and spirituality must necessarily be interpreted by individuals through a filter of their own perceptions, experiences, and values. This applies equally to those who are studied and those who conduct research. Even though a scientific approach to the study of religion has objectivity as a basic premise, the study of religion/spirituality is thought to be especially vulnerable to bias from researchers' subjectivity in selecting the studies they report in scientific papers (see Johnson, De Li, Larson, & McCullough, 2000; Wong, Rew, & Slaikeu, 2006). While the quest for scientific rigour will help to ensure that personal biases do not compromise the findings from research investigating links between religion, spirituality and health, the conceptualisation of religion and spirituality as discrete concepts for research

purposes remains especially problematic.

Hill et al. (2000) have nevertheless sought to devise a set of criteria for distinguishing spirituality from religion that are value-free. They use an approach much like that taken in devising clinical criteria found in the DSM-IV (see American Psychiatric Association, 2000). Hill et al. (2000:66) propose that both religion and spirituality be assessed in the first instance according to Criterion A:

The feelings, thoughts, experiences, and behaviours that arise from a search for the sacred. The term “search” refers to attempts to identify, articulate, maintain, or transform. The term “sacred” refers to a being, object, Ultimate Reality, or Ultimate Truth as perceived by the individual.

This is the sole criterion for spirituality and in order to distinguish religion from spirituality, two additional criteria are identified:

AND/OR:

- B. *A search for non-sacred goals (such as identity, belongingness, meaning, health, or wellness) in a context that has as its primary goal the facilitation of (A):*

AND:

- C. *The means and methods (e.g., rituals or prescribed behaviors) of the search that receive validation and support from within an identifiable group of people.*

Hill and colleagues (2000) also provide a comprehensive analysis of the many issues that surround the study of religion and spirituality, as well as its importance for understanding health and wellbeing. They identify religion and spirituality as being relevant to: individual development across the lifespan; the formation of social norms; cognitive function; affect and emotion; personality; drug and alcohol use; the provision of alternative welfare programs; approaches that emphasise the individual's role in preventing and curing illness; and the diminishing of deviant behaviour like theft, violence towards others, hedonism, and extramarital sexual activity (Hill, Pargament, Hood Jr et al., 2000:53-56). The efficacy of their proposed criteria for progressing an understanding of the relationships between religion and mental health, and spirituality and mental health, remains questionable however. Certainly, they have addressed many of the difficulties that might be encountered when attempting to distinguish religion from spirituality, such as multiple spiritualities being endorsed by a single

individual and co-occurrence of religion and spirituality. They have argued convincingly that emerging cults and sects can justifiably be regarded as involving both religion and spirituality, even if they involve rejection “of and by the host culture” (Hill, Pargament, Hood Jr et al., 2000:80). This serves to ensure that due consideration is given to the collective nature of new religious groups, which traditional approaches to religion have tended to ignore through their focus on “attendance at church” or “participation in religious activities”. However, it remains that the concepts religion and spirituality may be too broad for the purposes of identifying the ways in which differing beliefs and worldviews might translate to differential mental health and social behavioural outcomes, and even serve to distort reality. In particular, they fail to address the different meanings ascribed to the term ‘spirituality’ according to whether individuals endorse a “religious” or “non-religious” variety of spirituality.

Consider for instance, the beliefs and practices associated with the New Age movement (and/or Human Potential movement). Proponents of New Age philosophy may attend workshops and seminars regularly or intermittently, or privately use meditative techniques, crystal therapy, or life management strategies following their reading of New Age publications and/or watching of videos and/or listening to audio tapes, without any face-to-face contact with supportive groups that validate the individual’s beliefs and/or practices. Bainbridge and Stark (1980) refer to the people engaging in these sorts of activities as *client* and *audience* cults. While client cults are seen to involve some degree of rudimentary organisation through the contact that takes place between New Age practitioners and their clientele, audience cults may involve little or no direct person to person contact between New Age authors and speakers and their readers/audiences (Bainbridge, 2004b). Depending on the nature, number, and temporality of measures used in survey instruments, people adhering to New Age beliefs may fail to endorse particular items that relate to “means or methods” (as described in Criterion C), even though they engage in a range of “means and methods” that have links to one or more identifiable groups. Ultimately, the efficacy of Hill’s and colleagues’ criteria for distinguishing religion from spirituality for research purposes will be dependent upon the range and number of items researchers use to gauge an individual’s correspondence or non-correspondence with them – with criterion A for determinations of spirituality, and either A and B, B and C, or A, B, and C for religiousness, as well as the particular operational definitions researchers adopt for the aspects covered by each criterion.

Work conducted by Gall and colleagues (2005) suggests that progress is being made in developing cohesive theoretical frameworks for spirituality in regard to coping and health. Building upon transactional models proposed by Pargament (1997), Folkman (1997), and

Folkman and Greer (2000) for investigations into spirituality, coping and health, Gall and colleagues (2005) have devised a conceptual framework to elucidate the roles that key R/S influences might play in coping with stress. This model conceives a wide range of factors as being components of spirituality that are in a dynamic relationship with one another, and which mediate relationships between stressors and emotional, social, physical and spiritual wellbeing. These factors include: spiritual appraisals; personal factors such as denomination/doctrine, religious orientation, problem-solving styles, and hope; spiritual coping behaviours that are organisational, private, or non-traditional in nature; spiritual connections with nature, with others, or with the transcendent; and meaning-making according to life purpose, transformation or growth (Gall, Charbonneau, Clarke et al., 2005). However, the complexity of this framework and the range of constructs it involves raise substantial issues in relation to measurement of these constructs, particularly among large samples. To date, large studies that have investigated spirituality and coping have used a limited number of measures or have relied on single measures of religiousness or religiousness/spirituality.

More recent research published by Saucier and Skrzypinska (2006) however, appears to have made substantial headway in progressing understanding of the distinctive aspects of religiousness and spirituality, as a means of addressing the conceptual overlap between these two terms. Saucier and Skrzypinska (2006:1259) defined religion as “a system of beliefs in a divine or superhuman power, and practices of worship and other rituals directed at such a power” (proposed by Argyle & Beit-Hallahmi, 1975:1) and subjective spirituality (SS) as “a subjective experience of the sacred” (Vaughan, 1991:105). Saucier and Skrzypinska (2006:1259) differentiate SS from religion in this way because they conceive SS as being “closer in meaning to the natural-language term mysticism” and “a narrower and less inclusive and ambiguous notion than spirituality”, and argue that “the term *mystical* is more distinct in meaning from *religious* than is the term *spiritual*”. The sample comprised 160 males and 215 females (with a mean age of around 51 years) from the Eugene-Springfield community sample. A one to nine rating scale was used to assess the extent that participants identified with being *Religious* in 1993, and a one to seven rating scale was used to assess whether participants were *Mystical* or *Spiritual* in 2002. A battery of instruments were administered, including 24 items from the Expressions of Spirituality Inventory (ESI) (MacDonald, 2002), the 48-item Survey of Dictionary-Based Isms (SDI) which measures social attitudes (Saucier, 2000), supplementary attitude scales (42 items), and various other instruments. Saucier’s and Skrzypinska’s research indicates that tradition-oriented religiousness (TR) and subjective

spirituality (SS) represent two independent dispositions, leading them to conclude that unitary concepts of religiousness/spirituality mask two divergent constructs. TR was observed to be highly associated with authoritarianism and traditionalism, and moderately correlated with collectivism (versus individualism), low levels of openness to experience, as well as reliance on tradition-hallowed sources of authority that provide shared practices like rituals, and rules for controlling social and sexual behaviour. By contrast, SS correlated strongly with fantasy-proneness, dissociative experiences, superstitious and magical beliefs, as well as eccentricity, and high levels of openness to experience. These findings led Saucier and Skrzypinska (2006:1288) to conclude that individual differences in R/S beliefs cannot be captured by a single dimension like religion/spirituality and that to date, psychology has paid too little attention to the two independent dispositions revealed by their research. This work in particular provides support for the approach being taken in this thesis, which differentiates between a traditional religious and a non-traditional approach to the divine.

Summary

The psychological theories discussed in this chapter have addressed the beneficial and harmful potential of both religion and spirituality. At an individual level, traditional religion is conceived to provide role models for social behaviour, while religion and spirituality are both seen to provide coping mechanisms by which to alleviate anxiety about death, as well as a range of mental health problems that might arise from stressful life circumstances. The possibility that religion and spirituality might act as negative influences on mental health and behaviour rests on their respective capacities to encourage religious intolerance, prejudice, negative self-perceptions, irrational thinking, self-denial, and to justify acts of violence and aggression.

In combination, the discussion throughout Chapter Three suggests that existing theories about the role of religion and spirituality at an individual and at a societal level offer a basis from which numerous hypotheses can be devised and tested, in order to further understanding of the connections between religion/spirituality and mental health and social behaviour. Of particular interest in this thesis is the notion that the New Spirituality promotes a belief system in which a core belief is that the divine is spiritual and immanent in nature, as opposed to a traditional religious approach that views God as *the* divine being, and that these core beliefs imply divergent worldviews. The socio-historical context of these divergent conceptions of the divine suggests that the disparate worldviews each implies are not only relevant to individual wellbeing, but to the wellbeing of society. Whether or not these

contrasting conceptions of the divine are differentially related to mental health and social behaviour, and whether or not these associations are independent of involvement with religious organisations and religious background are the questions the current study seeks to address. Chapter Four reviews the extant literature related to religion, spirituality, mental health and social behaviour, and clearly shows that to date, this form of investigation has not been undertaken on a large community sample of young adults.

Chapter Four: Evidence of relationships between religion, spirituality, and mental health and social behaviour

Since there is considerable overlap between religion and spirituality, it is necessary that the review of the empirical literature provided in this chapter encompasses research evidence related to each (or both) of these concepts. Currently, researchers are tending to frame their respective reviews of the literature as if previous studies have investigated religion, religiousness, and spirituality, regardless of the fact that their own research might only use single and traditional measures of *religion*. This approach has the potential to be confusing. The following discussion separates the available literature into two sections. The first section focuses on research evidence based on associations between measures of religion (or religiousness) *and* spirituality, and depression, anxiety, delusional ideation and social behaviour, while the second section is restricted to evidence based solely on measures of religion or religiousness, as well as measures of religious background and these same outcomes. Searches undertaken to locate the available empirical literature related to these topics were originally limited to all studies published from 1990 to the present. However, the paucity of literature related to some of these outcomes made it necessary in these instances to consider studies that date as far back as the 1950s and 1960s.

From the literature related to religion and spirituality, it will be seen that a number of researchers appear to endorse the view that religion and spirituality cannot be separated operationally and have thus measured “religiousness/spirituality” as a unitary concept. Others however, have treated religion (or religiousness) and spirituality as separate entities, though there is little consistency in how these two concepts are operationalised. Since the scope of enquiry into the religion-mental health connection has only recently been extended to encompass the concept spirituality, there is limited empirical literature that pertains to religion (or religiousness) *and* spirituality, compared to that which is based on traditional measures of religion. The following review of the religion/spirituality literature gives particular attention to the manifold ways religion and spirituality are conceptualised across studies. Yet conceptual inconsistencies represent just one problem among numerous others within the study of religion/spirituality in general. Finding from three recent systematic reviews (Johnson, De Li, Larson et al., 2000; Rew & Wong, 2006; Wong, Rew, & Slaikeu, 2006) bring these problems into sharp focus. For example, Johnson et al. (2000) found that among the 40 studies they reviewed, half (20) failed to specify the reliability of measures used, 14 did not identify

response rates, and only five used prospective longitudinal data, limiting the credibility of causal inferences in the associations observed for 85 per cent of the studies examined. Of 43 studies reviewed by Rew and colleagues, the majority (26) either failed to specify or were unclear about the theoretical framework/conceptual model used. Wong et al. (2006) found that among the 20 studies they reviewed, only eight reported the religious affiliation/denomination of their samples, with most simply reporting that they were “Christians”. The following literature review gives detailed attention to the methodological approaches used in the literature related to religion/spirituality, and highlights the nature of controversies that continue to surround the study of religion and spirituality, and the implications these have for the findings related to these concepts.

Section One: Research evidence pertaining to religiousness, spirituality, mental health, and social behaviour

Religion, spirituality, and mental health

Depression and anxiety

Baetz and colleagues (2004) used Canadian population data from 70,844 people aged 15 years and older who responded to the *Canadian National Population Health Survey* (Wave II, 1996-1997) to examine the association between spiritual and religious involvement and depressive symptoms. Their findings warrant specific attention. Since a substantial proportion of the research that has investigated both religion and mental health has largely been based on clinical and convenient samples and has not measured both religion and spirituality, this particular study gives us some insight into the association between both spirituality and religion, and depression among a normal population sample, encompassing a wide age range, and different cultural and socioeconomic groups. Consistent with previous research, Baetz et al. (2004) found more frequent worship attendance to be significantly related to fewer symptoms of depression. However, those who agreed that spiritual values or faith were important or who perceived themselves to be “very” spiritual/religious, had *higher* levels of depressive symptoms, even after controlling for a range of potential and mediating factors including age, rural or urban location, income level, occupational prestige, educational status, general health, number of chronic health conditions, physical activity, alcohol consumption, marital status, and perceived social support. Baetz et al. (2004) offer several possible explanations for the observed association between religion/spirituality and higher levels of depressive symptoms. Firstly, they suggest that certain religious beliefs may foster depression, and secondly, that people who are not very spiritual/religious may turn to private

religion/spirituality for comfort. This interpretation seems to conflict with their finding that it was those who described themselves as being “very spiritual/religious” who had significantly more symptoms of depression, while the “moderately spiritual/religious I”, “not very spiritual/religious” showed no differences in symptoms of depression from those who were “not at all spiritual/religious”. Thirdly, they propose that socially desirable responding may make some people exaggerate or reduce reports of spirituality/religiousness and reports of depression, or fourthly, that depression may lead to less regular church attendance. However, they failed to identify the possibility that a small or large proportion of those who have adopted privatised forms of spirituality/religion have done so because they are disenchanted with organised religion. This may be a key reason for them not attending church. Those who describe themselves as being very spiritual/religious and who do not attend church, may be more depressed than others in the first instance, because they have a religious yearning that has been unable to be satisfied through involvement with mainstream religious institutions and organisations. This privatised form of spirituality/religiousness may exacerbate the tendency to be depressed through a lack of group membership that involves shared religious norms and values, and the absence of group solidarity and sense of belonging that this form of membership might provide. Even if those among the “very spiritual/religious” group are involved in group activities outside religious institutions, such as those associated with New Age and /or spiritual groups or organisations, the individualistic approach to spirituality that is characteristic of these groups and organisations makes it unlikely that such involvement provides individuals with norms, values, and beliefs that act as a cohesive and shared moral framework. Alternatively, it may be as Baetz et al. (Baetz, Griffin, Bowen et al., 2004:821) hypothesised, that certain beliefs “may foster depression”. While these authors did not elaborate on this point, given the large sample size used in this study, any belief system that could produce the observed effects must necessarily be widespread among the “very spiritual/religious” group. The use of a single measure of “being spiritual/religious” in this study precludes any determination being made as to whether the findings predominantly reflect the mental health of those who tend towards spirituality and not religiousness, or vice versa, or a mixture of both. The findings from this study provide no clue as to the causal sequence involved – whether the “very spiritual/religious” are already depressed and this leads them to adopt privatised forms of spirituality/religiousness, or whether privatised forms of spirituality/religiousness make the “very religious/spiritual” more vulnerable to depression.

One Australian study, using a subset (N=989) of the 1998 Australian Community sample, investigated links between psychological wellbeing and Christian faith and practice.

Three measures were used to assess Christian faith and practice, including belief in God or some sort of spirit or life force, frequency of church attendance, and frequency of personal prayer. The belief item was measured according to a 4-point scale (“There is a personal God” = 1, “There is some sort of spirit or life force” = 2; “I don’t really know what to think” = 3; “I don’t really think there is any sort of spirit, God, or life force” = 4) (Francis & Kaldor, 2002). Francis and Kaldor (2002) assessed psychological wellbeing according to participant responses to items from the Bradburn Balanced Affect Scale (BBAS) (Bradburn, 1969). The BBAS assesses wellbeing from three separate subscales, including the positive affect scale (assessing positive feelings in relation to: accomplishing something; things going your way; being particularly excited or interested in something; and feeling on top of the world), the negative affect scale (assessing negative feelings, including: feeling so restless that you couldn’t sit long in a chair; bored, depressed and very unhappy; very lonely or remote from other people; and upset because someone criticized you), and the balanced affect scale (difference in positive and negative feelings scores). Higher scores on the positive affect scale and lower scores on the negative affect scale represent greater levels of psychological wellbeing. The findings showed religiosity as having a positive association with wellbeing. Comparison of mean scores showed that females had significantly higher scores than males on the positive effect scale, but there were no gender differences for the negative or balanced effect scale. Older people recorded lower scores than young people on the two scales of positive and negative affect. Multiple regression analyses controlling for age and gender, showed that personal prayer, belief in God or some sort of spirit or life force, and church attendance were all positively associated with positive affect but that none of these variables were related to negative affect. In addition, once personal prayer and belief in God/some sort of spirit or life force were taken into account, church attendance gave no additional predictive power for wellbeing. Hence, even though numerous studies have found church attendance to have a “beneficial effect” on mental health, it might be that R/S beliefs and private practices account for this relationship rather than church attendance, in cases where church attendance, R/S beliefs, and/or other practices were not measured or included in analyses. Unfortunately, the use of correlations and multiple regression analyses in this particular study means that belief in some sort of spirit or life force (endorsed by 40%) was treated as a higher level of “belief in God” (endorsed by 39%). The results therefore give little insight about the extent that these two different beliefs might be differentially related to psychological wellbeing.

Data from a more recent survey, the 2002-03 *Wellbeing and Security Study*, gathered from a random sample of 1,514 Australians has led to a more comprehensive picture of the different

forms of religiosity that now exist within Australia. A research paper entitled *Spirituality and Wellbeing in Australia* by Kaldor and colleagues (2004) investigated four distinct aspects of spirituality among Australians including Christian religiosity, a general spiritual orientation, secular orientation, and alternative spiritualities. Table 1 below identifies the nature of the constructs that formed the basis for devising scales that were used to measure these four different dimensions of spirituality.

Table 1: Dimensions of spirituality investigated by the Australian 2002-03 Wellbeing and Security Study

Type of spirituality	Constructs	Measures
Christian religiosity	Orthodoxy of religious belief	<i>Items affirming Jesus' divinity and resurrection, and salience of belief</i>
	Unreflective religiosity	<i>Items affirming it is wrong to question the authority of the church or the Bible and that we should not question and just believe</i>
	Religious practices	<i>Frequency of public practices including church attendance and private practices such as prayer, reading the Bible, and reading Christian literature</i>
General spiritual orientation		<i>Belief that there is something beyond this life that makes sense of it all, and self-perception of being spiritual</i>
Secular orientation		<i>Belief that there is no room for God or the supernatural in explaining life (the universe has no meaning, science explains everything, and life makes sense in terms of the here and now)</i>
Alternative spiritualities	Spiritual journeying	<i>Ongoing change in beliefs and practices, and items affirming the potential value of all spiritualities in this journey</i>
	Spiritual connection with nature or the land	<i>Items affirming awareness of a life force in the forests, oceans, and ecosystems, and a sense of belonging to the land</i>
	Buddhist or New Age influences	<i>None identified</i>
	Openness to alternative healing practices	<i>Openness to Reiki, Reichian therapy, and Chakra balancing</i>
	Engaging with alternative spiritualities	<i>Active seeking of understanding of alternative spirituality such as attendance at the annual Mind Body Healing Festival</i>
	Having psychic or 'beyond death' experiences	<i>Items measuring the seeking of direction from tarot, horoscopes, or communication with the dead, experiencing ghosts, astral travel, witchcraft, and prediction of the future</i>

Source: Kaldor et al. (2004:8-9)

While Kaldor and colleagues (2004) did not examine specific domains of mental health, they did investigate whether different forms of spirituality were differentially related to a summary measure of overall mental health. Overall, there appeared to be no clear relationships between any of the types of spirituality under study and mental health, with the

authors speculating that this might be due to the inability of their chosen measure from the SF12 (Ware, Kosinski, & Keller, 1996) to adequately capture differences in mental health. However, differences in other domains of wellbeing and behaviour were observed and these warrant some discussion since few studies have investigated differential outcomes according to varying forms of spirituality. Those with a spiritual orientation were found to have a much greater sense of purpose in life and optimism, particularly in regard to satisfaction with achievements in life and place in the community, and were also more likely to contribute to others in daily life, by giving money to charities or by doing voluntary service with community groups, than those with a secular outlook (Kaldor, Hughes, Castle et al., 2004:10). Those with orthodox religious beliefs (especially those who engaged in religious practices) were found to be more likely to contribute to others than those assigned to the unreflective religiosity group. Alternative spiritualities were observed to be positively correlated with optimism, sense of purpose in life, informal help for others, but not with giving to charities (Kaldor, Hughes, Castle et al., 2004:14). They were also more likely than those with a religious orientation, to feel that they have higher levels of control in their lives. Buddhist/New Age and psychic involvement were found to be negatively correlated with satisfaction with life, with small negative correlations also being found between both of these types of involvement and sense of security (Kaldor, Hughes, Castle et al., 2004:14).

A recent review of the literature related to religion/spirituality and adolescent health outcomes conducted by Cotton et al. (2006) indicates that the bulk of research that addresses adolescent mental health tends to focus on outcomes such as health-related behaviours like substance use and sexual activity, and the use of religion as a coping resource. However, they identified one study that examined anxiety as an outcome and another two that investigated symptoms of depression, all of which use some measure of spirituality. Davis et al. (2003) found that among 14 to 17 year olds (N=45), spiritual wellbeing, as defined by one's sense of wellbeing in relation to God and one's sense of life purpose and life satisfaction, predicted lower trait anxiety. Being "spiritual/religious" and having had positive interpersonal religious experiences were observed by Pearce et al. (2003) to be associated with lower levels of depressive symptoms among young adolescents (N=744). Wright et al. (1993) found that making meaning out of life using R/S beliefs and seeking spiritual support were also related to fewer symptoms of depression among 9th to 12th graders (N=451).

Religiousness, spirituality and mental health among the mentally or physically ill

The bulk of evidence arising from investigations into both religiousness and spirituality comes from studies using samples of people who are experiencing mental or physical illness.

One recent study investigated whether there were any differences in psychological wellbeing and recovery among people with a serious mental illness including schizophrenia, bipolar disorder, or major depressive disorder, and a significant functional disability as a consequence of mental illness (N=1,824). Participants were categorised as *religious* (those participating in a community of people who gather around common ways of worshipping) or *spiritual* (those who see themselves as part of a larger spiritual force) (Corrigan, McCorkle, Schell et al., 2003). Analyses using MANOVAs and chi-square tests revealed that people who self-identified with spirituality had better outcomes related to recovery, subjective and objective measures of social inclusion, hope and empowerment, but no difference was observed for quality of life between those self-identifying as spiritual compared to those who did not. People who identified themselves as religious had significantly lower anxiety, depression, and total scores on the short version (25 items) of the Hopkins Symptom Checklist (Deratogis & et al, 1974), and lower levels of disability as measured by the Services Outcome Section of the Mental Health Statistical Improvement Program (MHSIP) Consumer Survey (Eisen, Shaul, Leff, Stringfellow, Clarridge, & Cleary, 2001). By comparison, spirituality was associated with significantly less self-reported symptoms of depression and disability. No relationship was found between either religiousness or spirituality and reports of being bothered by problems related to alcohol or drug use. Nor were any interactions observed between religiousness and spirituality for any of the outcomes under study.

The differences found between the “religious” and “spirituality” groups for various outcomes in Corrigan et al.’s (2003) research warrant specific attention, particularly given that research into religiousness versus spirituality is limited. Firstly, this particular research shows spirituality as being connected with higher levels of both subjective and objective measures of social inclusion, while religiousness is related to subjective social inclusion only. Contrary to the notion that religious membership affords the individual tangible forms of social support, shared norms and values, and a greater density of social networks, the findings from this study suggest that spirituality involves higher levels of social inclusion according to *objective* measures than religiousness. These findings suggest that those aligned with ‘spirituality’ have social networks beyond those that are assessable from measures like church attendance.

Secondly, self-empowerment is central to the ideologies associated with the New Age, feminist spirituality and other groups who see spirituality as a central tenet of their belief systems. Thus, the finding that those categorised as ‘spiritual’ had higher levels of self-rated empowerment is especially interesting. It would seem from this result that those subscribing to a spiritual worldview do have a greater *sense* of personal empowerment than religious people

or those who deemed to have no religion. It is impossible to tell however, whether this group has actually achieved greater charge over their own lives, or whether they simply *believe* that they have done so because the notion of self-empowerment figures so strongly within their particular framework of belief.

Thirdly, both religiousness and spirituality were found to be associated with fewer symptoms of depression. However, no benefit appears to be derived from spirituality as assessed from anxiety and total symptoms scores. Only religiousness was associated with these particular outcomes. More studies are needed that compare mental health outcomes among the ‘religious’ and the ‘spiritual’ to determine whether there are persistent differences that might be linked to these contrasting forms of religiosity, particularly among normal populations.

Finally, Corrigan et al.’s (2003) original hypothesis was that spirituality would have more beneficial effects than religiousness, and these researchers reported their surprise that this hypothesis was not supported by their results. This suggests that they held some pre-existing notion that spirituality is somehow “better” than religiousness, lending support to the view that researchers are likely to approach the study of religion and spirituality with preconceived ideas about whether spirituality is “good” and religiousness is “bad” or vice versa, despite there being little empirical evidence on which to base these notions.

A more recent study by Wink, Dillon, and Larsen (2005) sought to test the hypothesis that religiousness acts as a buffer against depression in the presence of poor physical health in late adulthood. They also sought to investigate whether spirituality plays a similar role to religiousness in buffering against depression among those with poor physical health. The study sample comprised men and women ($N \approx 156$) born in the San Francisco area in the early and late 1920s, who were followed up in middle adulthood (during their 40s – in 1970), in late middle adulthood (during their 50s/early 60s – in 1982), and in late adulthood (their late 60s/mid-70s – 1997 to 2000). The concept religiousness was operationalised by Wink and colleagues (2005) as the importance of institutionalised beliefs and practices (belief in God, belief in an after-life, and prayer, and/or attendance at a traditional place of worship). Spirituality was operationalised as the importance of noninstitutionalised beliefs and practices (emphasis on awareness of sacred connectedness with God, a higher power, or nature, and engagement in intentional spiritual practices such as meditation, Shamanistic journeying, centering, or contemplative prayer on a regular basis). Religiousness and spirituality were coded separately on a five-point scale independently by two raters, using responses to open-ended questions about religion from transcripts of interviews at each time point. Those who

scored 16 or higher on the Center for Epidemiologic Scale-Depression Scale (CES-D) (Radloff, 1977) were categorised as depressed. Concurrent religiousness in late adulthood (in 1997 to 2000), and religiousness in early adulthood (in 1970) were each found to have a buffering effect on depression associated with poor physical health in late adulthood, while religiousness in late middle adulthood (in 1982) was observed to be unrelated to this outcome. By contrast, spirituality (assessed in late middle adulthood and late adulthood only) appeared to have no buffering effect on depression among those with poor physical health (Wink, Dillon, & Larsen, 2005).

Other studies that have combined spirituality and religion into a singular concept, in order to investigate their connection to coping with mental illness, support the view that spirituality/religion is beneficial in relation to depression. Around 80 per cent of 400 patients in the county of Los Angeles were found to use some type of religious belief or activity to cope with their symptoms or daily difficulties, and 65 per cent of this sample reported that religion helped them to a large or moderate extent in coping with symptom severity, 48 per cent agreed that spirituality/religion became more important to them when symptoms worsened, and 30 per cent stated that religious beliefs or activities were the most important thing that kept them going (Tepper, Rogers, Coleman, & Maloney, 2001). Other research indicates that religion/spirituality is associated with quicker recovery from mental illness and lower levels of current depression. Among 88 Canadian psychiatric inpatients (50% male) with a diagnosis of major depressive order (67%), or depression co-morbid with another Axis I disorder, such as panic disorder, eating disorder, or substance abuse (33%), or Axis II personality disorder or traits (49%), levels of spiritual/religious beliefs were observed to be quite similar or slightly higher than those of the Canadian general population (Baetz, Larson, Marcoux et al., 2002). Frequent church attendance was found to be associated with lower scores on the Beck Depression Inventory, significantly greater subjective satisfaction with life, and shorter current hospital stays. Intrinsic religiousness was observed to be linked to lower depression scores. Those patients reporting a religious response as their most important coping factor had shorter hospital stays. In considering specific religious beliefs, the three different beliefs measured (“in a personal God who rewards and punishes”; in the need to be born again”, and, “in every part of the Bible as the actual word of God”) were observed to be unrelated to any of the mental health outcomes being examined. However, all three beliefs under examination are associated with forms of religiosity that are religiously traditional in nature, and it is therefore impossible to gauge whether different results might have emerged had non-traditional beliefs been considered.

Three other studies indicate that R/S faith may assist the elderly in coping with illness, thereby reducing depression. Among 850 male patients, the use of spiritual/religious faith as a coping strategy has been found to be associated with lower levels of depression at the time of hospital admission (Koenig, Cohen, Blazer et al., 1992). Using a sub-sample of 201 of these same patients who had depression, as well as medical illness at the time of admission, greater levels of R/S coping were also found to predict lower depression scores at follow-up six months later, with the clinical effects of R/S coping being observed to be strongest for those with the severest levels of disability (Koenig, Cohen, Blazer, Kudler, Krishnan, & Sibert, 1995). Among younger age groups too, religious coping has been found to assist oncology patients aged between 10 and 23 years in understanding and accepting their condition (Tebbi, Mallon, Richards, & Bigler, 1987).

While the accumulated evidence tends to suggest that religion and spirituality may be important coping resources for those who are mentally or physically ill, it remains unclear whether these benefits extend to healthy populations.

Religion, spirituality and delusional ideation

Delusions are defined in the DSM-IV-TR as “erroneous beliefs that usually involve a misinterpretation of perceptions or experiences” (American Psychiatric Association, 2000). Since delusions represent one feature of the symptomatology associated with schizophrenia and other psychotic disorders, they have long been of interest within the field of psychiatry. However, the extent that delusional thoughts are an indication of psychosis or psychotic tendencies remains a contentious issue. In a recent debate published in the *British Journal of Psychiatry*, Delepaul and Van Os (see Jones, Delepaul, & Van Os, 2003:286) argued that many people in the general population express beliefs “that resemble the delusions of patients with a diagnosis of psychotic disorder”, and “to the extent that psychotic-like beliefs are prevalent in the non-patient population, they can be labelled as normal”. They further argued that the empirical evidence suggests that delusions should be thought of as “a multidimensional characteristic” which varies along various dimensions including conviction, distress, conviction and “bizarreness” and that one or several of these dimensions may occur over time within the same person (Jones, Delepaul, & Van Os, 2003:286). According to this view, delusions do not necessarily indicate mental illness. Rather, symptoms of schizophrenia are seen to be at the extreme end of a continuum ranging from healthy functioning, through eccentricity, to florid psychosis” (Peters, Day, McKenna et al., 1999:83). However, Jones (2003:285) takes a different view, and in agreement with Jaspers (1963), sees delusional beliefs

as being distinct from normal beliefs because they involve a transformation in the awareness of meaning, with the associated belief becoming fixated and impervious to counterargument, leading to an alteration of the personality.

In line with the argument mounted by Delespaul, and van Os (Jones, Delespaul, & Van Os, 2003), Peters and colleagues (1999:92) argue that the process of becoming overtly deluded is determined by the extent to which delusions are believed, the degree that they interfere with one's life, as well as their emotional impact. Thus, it is not simply the presence or content of delusional thoughts that differentiates psychosis from normalcy (Peters, Joseph, & Garety, 1999). According to this view, high levels of delusional thinking within normal populations may represent little more than individual or group idiosyncrasy – a consequence of individual differences and numerous cultural influences (see Peters, Joseph, & Garety, 1999).

The power of the social in determining the content of delusional thinking has been highlighted by research conducted by Stompe and colleagues (1999). During the past ten years, technological innovations like computer games and the internet have been observed to have registered in the content of schizophrenic delusions (Stompe, Ortwein-Swoboda, Ritter, & Schanda, 2003:6). This has led many authors to conclude that *zeitgeist* (the German expression for the “spirit of the time”, that is, the intellectual and cultural climate of a given era) is “creating new delusional contents” (Stompe, Ortwein-Swoboda, Ritter et al., 2003:6). Stompe and colleagues (2003) sought to test this hypothesis by comparing data gathered on two Austrian cohorts of patients with schizophrenic delusions from 1856-1910 and 1911-1955 with their own data from 1992-2001. Findings showed that delusions of persecution by human beings have not changed significantly over time and remain the most common delusional theme, but that persecution by supernatural beings decreased from 25.9 to 13.1 per cent between 1856/1910 and 1911/1955 and then increased until 2001 to 19.8 per cent. Grandiose delusions, the second most common type of delusion, remained fairly stable across time, rates of delusions of supernatural guilt hardly changed, and delusions of earthly guilt decreased from 1955 until 2001 from 19.7 to 8.3 per cent. Stompe et al. (2003:10) highlight that the fluctuation in persecution by supernatural beings may reflect the long-term cycles of secularization and re-evangelization over the past 100 years. Furthermore, they note that the ability of NRMs to reach many people (particularly the young) during the extensive changes to religious traditions that took place between 1975 and 1990 (Kepel, 1991) is evidenced by the link they found in their 1992-2001 data (Stompe, Friedmann, Ortwein et al., 1999) between the attraction of religion for young people and the return of “irrealistic” delusional themes, including supernatural persecution, grandiosity and guilt (Stompe, Ortwein-Swoboda, Ritter et

al., 2003:10).

The influence of zeitgeist observed among patient populations is also evident among the general population as indicated by the widespread prevalence of paranormal and New Age beliefs identified in Chapter Two. The degree of “bizarreness” of a particular delusional belief is largely determined by cultural norms, with similar mental and behavioural states being classified as religious experiences in some cultural settings, and as psychiatric disorders in others (Bhugra, 1996; Peters, Day, McKenna et al., 1999). Nevertheless, there is some evidence to support the view that delusional ideation is a marker for subsequent mental health impairment. This evidence warns of the possibility that the regard of delusions as being “normal” when there is no associated preoccupation with, conviction about, or distress from these delusions, may lead to a failure in detection of early signs of the development of mental and/or emotional problems.

Longitudinal research conducted in New Zealand suggests that delusional ideation at one point in time, regardless of content, is a strong predictor of subsequent psychosis. Poulton and colleagues (2000) investigated the relationship between delusional ideation in pre-adolescence and risk for schizophreniform disorder in adulthood. Eleven year olds endorsing just one delusional item were found to be 5.5 times, and those endorsing two or more of these items to be 16.4 times, more likely to be diagnosed with schizophreniform disorder at 26 years than those who did not endorse any of the five items at 11 years of age (Poulton, Caspi, Moffitt et al., 2000). Delusional ideation measures used in this study included the belief that people “could read your mind”, in having been sent messages through television or radio, in having had people “follow or spy” on them, in having “heard voices other people couldn’t hear”, and belief that “something had gotten inside your body or your body has changed in some strange way”.

Other research suggests that high levels of delusional ideation may also be a predictor for subsequent depression. Verdoux and colleagues (1999) administered the 21-item Peters Delusional Inventory (PDI) to 425 primary care patients aged 18 to 93 years with no history of mood disorders (Time 1), with a follow-up being undertaken 12 months later (Time 2). Patients with total PDI scores above the 90th percentile at Time 1 were found to have a nine-fold risk for depression at Time 2, compared to patients with scores below the 10th percentile.

In combination, the studies mentioned above (Poulton, Caspi, Moffitt et al., 2000; Verdoux, van Os, Maurice-Tison et al., 1999) raise concerns that delusional ideation may be a precursor to mental health problems, and that younger generations may be prone towards

particular forms of delusional ideation because of their attraction to NRMs (Kepel, 1991; Stompe, Friedmann, Ortwein et al., 1999).

There is currently little empirical literature related to both religion and spirituality, and measures of delusional ideation and thus only three studies are reviewed in this section of the literature review. However, other studies have examined the relationship between religion and delusional ideation and these are examined in Section Two of this chapter. The available literature on this area of enquiry discussed in this chapter identifies that little research attention has been directed towards delusional ideation among younger generations specifically, and that there has been a lack of research attention to the relationship between traditional and non-traditional conceptions of the divine and delusional ideation.

Two of the three available studies that examine connections between religion/spirituality and delusions, were undertaken in the past two years and give some insight into the relationships observed between in delusional between a traditional religious orientation and a “spiritual” orientation, with the third study undertaken in the 1990s, investigating differences in delusional ideation between NRM members, Christians, those with no religious affiliation, and psychotic inpatients.

The most recent study by Saucier and Skrzypinska (2006) found that delusional ideation differs substantially according to whether religiosity is tradition-oriented (TR) or leans more towards subjective spirituality (SS). SS was found to be significantly correlated with: dissociative experiences, measured according to the 31-item revised Curious Experiences Scale (Goldberg, in press); fantasy-proneness in childhood, assessed from seven items contained in the Creative Experiences Questionnaire (Merkelbach, Horselenberg, & Muris, 2001); and irrational beliefs and magical ideation, measured according to a 19-item scale devised by Koopmans and colleagues (1994) (measuring beliefs in psychokinesis, out-of-body experiences, astrology, reincarnation, spells, and psychic powers). No significant correlations were found between TR and these same outcomes. The elevated levels of irrational beliefs and magical ideation found among the SS group clearly rest on the tendency of this group towards mysticism, that is, this group could be expected to have higher delusional ideation scores because the instruments used directly tap beliefs and ideas that are themselves associated with mysticism. Yet the higher levels of fantasy-proneness and dissociative experiences among the SS group suggest that this group have different characteristics to those who hold traditional religious beliefs that extend beyond the domain of beliefs.

An earlier study by Stifler and colleagues (2005) investigated differences in mystic beliefs

and experiences, egotism, and narcissism between members of various spiritual groups, psychotics, and normals, by comparing the scores of these three groups on a battery of items, including the Hood Mysticism Scale (Hood, 1975), the Ego Grasping Orientation Inventory (Knoblauch, 1985), and the Narcissistic Personality Inventory (Raskin & Hall, 1979). A sample of 30 normals (hospital staff), 30 psychiatric inpatients meeting clinical criteria for psychosis and 30 members of contemplative/spiritual groups (including those affiliated with Buddhism, Hindu-Yoga, Universalism, Taosim, and other affiliations) was used for this research. Normal subjects reported substantially fewer mystical experiences, (mean = 124) than either the contemplative group (mean = 142) or the psychotic inpatient group (mean = 141). The contemplative group was thus differentiated from the normal group in terms of mystical experiences, but not the inpatient group. Ego Grasping scores were much higher among the inpatient group than both the normal and contemplative groups ($P < 0.001$), as were their narcissism scores. Interestingly however, the contemplative group had higher narcissism scores than the normal group, leading the authors to question whether those with a greater degree of narcissism are more prone to the pursuit of a mystical path. An alternative explanation is that mystical beliefs encourage narcissism.

Peters et al. (1999) compared levels of delusional ideation across four different groups: members of new religious movements (NRMs); Christians; those with no religious affiliation; and psychotic in-patients. NRM members (comprising Druids and Hare Krishnas) were found to have significantly higher scores on measures of delusional ideation and depression than both the Christian group and the non-affiliated group. The higher levels of depression among the NRM members were found to be attributable to Druids, and not Hare Krishna members. NRM members were found to have similar delusional ideation scores to the psychotic inpatient group, though NRM groups were differentiated from inpatients with psychosis in that inpatients had significantly higher levels of stress and were much more preoccupied by these thoughts than NRM members. Peters et al. (1999) called for more research in this area, particularly longitudinal research, so that it can be determined whether the delusional thoughts experienced by NRM members precede or follow their NRM membership.

Together, the Stifler et al. (2005) and Saucier and Skrzypinska (2006) studies raise the question as to whether the connection between forms of religiosity that are contemplative or mystic in orientation and higher levels of delusional ideation simply reflects the types of measures used to capture delusional ideation, since these directly tap mystically oriented beliefs. However, the findings from Saucier's and Skrzypinska's (2006) investigation suggest that those whose religiosity tends towards spirituality and not religiousness are more likely to

have dissociative experiences and to have fantasies in childhood than those whose religiosity is more traditional in orientation. It thus appears that those whose religiosity leans towards mysticism not only have idiosyncratic beliefs, but that they also have experiences that conform to these beliefs. What remains unclear is whether idiosyncratic beliefs precede dissociative experiences, or vice versa. The strong correlation with fantasy proneness in childhood found for this group by Saucier and Skrzypinska (2006) suggests that the tendency towards mystic beliefs and dissociative experiences might be related to factors like personality. However, it is equally plausible that the social environments in which the mystically-inclined are raised somehow foster childhood fantasies, which in turn, give rise to both and mystic beliefs and dissociative experiences.

In considering the studies by Peters et al. and Stifler and colleagues, it is clear that members of NRMs and contemplative/spiritual groups have similar levels of delusional ideation and mystical experiences to those experienced by psychiatric inpatients. However, these groups are differentiated from psychiatric inpatients in that these beliefs and experiences do not appear to be associated with mental health impairment. This is one of the factors that supports the view that delusional ideation lies on a continuum from normality to psychosis, and that it is not the content of delusions but the way these impede daily functioning that determines their link to psychotic behaviour (Peters, Joseph, & Garety, 1999). Yet it is noteworthy that Druids were found to have elevated depression scores compared to control groups (Christians and those unaffiliated with any religion) (Peters, Day, McKenna et al., 1999) and that members of contemplative/spiritual groups had higher narcissism scores than controls. Peters et al. (1999:92) argue that their research supports the notion that members of NRMs fall somewhere in between normality and psychosis, where “normal” individuals (including the religious and non-religious) are at one extreme and deluded individuals are at the other extreme. They also speculate that membership to groups that match an individual’s idiosyncratic beliefs may afford an avenue of social support that assists them to function normally within society. However, it remains unclear whether members of NRMs and contemplative/spiritual groups might be at greater risk for subsequent mental illness than those who have a traditional religious or secular orientation. Since most of the empirical evidence identifying relationships between religion, spirituality, and delusional ideation is based on cross-sectional data, it is also unclear whether higher levels of delusional ideation and mystical experiences among members of NRMs and contemplative spiritual groups pre-exist or follow their involvement with these particular groups. The possible bi-directional relationship between religion and delusional ideation parallels that identified by Introvigne

(2002) in relation to explanations proposed for the bizarre beliefs and behaviour of cult members observed in the cult wars – where idiosyncratic beliefs are conceived to represent either the matching psychopathologies of both cult leaders and their followers, *or* that they are a consequence of brainwashing by cult leaders and/or fellow group members.

Religion, spirituality and social behaviour

Investigations into connections between religion and the social behaviour of younger generations commonly focus on antisocial behaviour, with either aggressive and/or delinquent behaviours forming the main outcome/s of interest. Only two studies appear to have investigated links between religiousness/spirituality, and antisocial behaviour. One study by Resnick et al. (1993) found that among 7th to 12th graders (N=36,254), self-identification as being a religious or spiritual person was associated with lower levels of quietly disturbed behaviours among girls, and acting-out behaviours among boys. A more recent study by Good and Willoughby (2006) sought to investigate whether indicators of *religiosity* (measured by church attendance) and *spirituality* (measured by belief in God or a higher power) were linked to differences in direct and indirect forms of aggression (pushing and shoving someone, and spreading rumours and untrue stories) and minor and major delinquency (shoplifting and joining a gang), among a sample of 6,578 Canadian adolescents aged 13 to 18 years. The sample used for analysis (n=4445) was divided into four groups based on spirituality (“yes” or “no”) and weekly or more attendance at church during the past month (“yes” or “never attends church”). Those respondents who were unsure whether they believed in God or a higher power, as well as those who attended church less than once a week, were discarded from analyses. Findings showed that those who attended church regularly had significantly lower mean scores for direct aggression and minor delinquency ($P = <.003$) than those who never attend church, regardless of whether or not they believed in God or a higher power. No significant differences in mean scores were evident between groups for indirect aggression or major delinquency. These findings tend to support the view that regular church attendance is associated with lower levels of physical aggression and theft, and that there is no relationship between R/S beliefs and antisocial behaviour. However, the collapsing of believe in God and belief in a higher power into a single category means that any differences in behaviour that might be linked to these different systems of belief remain undetectable. Similarly, the approach used in the Resnick et al. (1993) study, whereby self-identification with “being religious or spiritual” was treated as a unitary concept, removes any opportunity to examine whether adolescents who identify with “being religious” and those who identify with “being spiritual” behave in similar or disparate ways.

Measures of prosociality also provide a means to examine the connection between religiosity and social behaviour, and while prosociality is not a focus of this thesis, evidence from one recent study (Saraglou, Pichon, Trompette, Verschueren, & Dernelle, 2005) is being included in this section, since it provides some insight into differences in prosociality between the religiously and spiritually inclined. Evidence to date seems to support the view that religious people tend to be more prosocial and helpful than the non-religious. However, it is argued that this association may be more a reflection of religious people's self-delusion and "moral hypocrisy", than it is an indication of true differences between the religious and non-religious, since this research has relied heavily on self-report data (Saraglou et al. 2005). Nevertheless, the bulk of evidence indicates that the prosocial character of religious people remains stable across different cohorts, cultures, and religions, but that observed effects are modest (Saraglou et al. 2005).

Saraglou et al. (2005) sought to examine whether the prosociality of religious people might be the result of biased self-perceptions among the religious by comparing self-report with ratings of pro-sociality provided by a friend and colleague of individuals within the study population. They also examined whether there were any differences between three particular forms of religiosity, including spirituality. A total of 250 Belgian adults were approached to participate. Around one-third of the participants were pastoral workers and the remainder of the sample were acquaintances of the researchers who were perceived to be "not specifically religious". Participants were given three envelopes, one for themselves, one for a friend, and the other for a colleague of their choice. The sample was divided into three groups: *religiosity* referring to those who see both God and religion as being important to them, and who also engage in prayer; *emotional religion* referring to those whose religiosity gives emphasis to the meaning and experience religion provides; and, *spirituality*, designated as those who regard spirituality as being the most important aspect of religion. Self-reported prosociality was significantly correlated with: *religiosity* for altruism (0.27, $p < 0.01$), empathy (0.27, $p < 0.01$), and honesty (0.24, $p < 0.01$); with *emotional religion* for altruism (0.31, $p < 0.001$) and empathy (0.26, $p < 0.01$); and with *spirituality* for altruism (0.29, $p < 0.001$) and perspective taking (a sub-dimension of empathy) (0.28, $p < 0.01$). However, friends' ratings of prosociality were not correlated with any of three groups under study for any of the domains of pro-sociality, indicating possible self-report bias for all three groups. Colleague ratings of prosociality for the religiosity group were significant for altruism (partial correlation coefficient = 0.19; $p < .05$), empathy (partial correlation coefficient = 0.22; $p < .05$), and honesty (partial correlation coefficient = 0.20; $p < .05$). The greater strength of the partial

correlations between religiosity and altruism, empathy, and honesty observed for self-report compared to the modest and weak correlations found for colleague ratings suggest that the religiosity group may tend to exaggerate their own levels of prosociality to a small degree. However, since one-third of the sample was pastoral workers, even the agreement found between self-report and colleague ratings for the religiosity group is open to question. Greater agreement between these two groups may reflect a biased view on the part of colleagues. These colleagues are also likely to be engaged in pastoral work and may view a prosocial attitude as being fundamental to their profession. They may be prone therefore to over-report their colleagues' levels of prosociality. Alternatively, it may be that the religiosity group behave differently at work than they do when in the company of friends, thereby explaining the disagreement in colleague and friend ratings. The fact that neither friends nor colleagues ratings of prosociality were correlated with any of the domains under investigation for either the emotional religion and spirituality groups suggest that those within these groups are even more biased in their assessments of themselves than the religiosity group. However, one needs to exercise caution in interpreting these findings. While the authors of this paper concluded that their findings suggest that bias alone does not explain the association between being religious and prosociality, one curious aspect of this research is the absence of a "no religion" group. Thus, it would seem that all those recruited in this study within the category "not specifically religious" led to the exclusion of any non-religious/non-spiritual participants. No conclusions can be made therefore as to the extent that self-perceived and others ratings of prosociality differ between the religious, emotion religion, and spirituality groups, and those who have no inclination towards either religiousness or spirituality.

Summary of evidence related to religion and spirituality

Apart from differences in irrational beliefs, magical ideation, fantasy-proneness, and dissociative experiences, little is known about the mental health of those whose form of religiosity is traditional in nature compared to those whose form of religiosity is non-traditional and contemplative/mystic in orientation. While Roof (1993) found that those who describe themselves as being "spiritual, but not religious" are more likely to have had mystical experiences, to hold non-traditional New Age beliefs, and to be independent of others than those who describe themselves as being "spiritual and religious", there is an absence of research that has directly investigated whether non-traditional R/S beliefs have a positive, negative, or null relationship with domains of mental health and social behaviour like depression, anxiety, aggression, and delinquency. Given the evidence that substantial proportions of populations within Australia, the United States, the Netherlands, and other

countries now endorse a non-traditional conception of the divine (belief in a spiritual or higher power or force), research is needed that can assess whether those who are part of the shift away from a belief in God have similar, better, or worse mental health and behavioural outcomes than those who continue to embrace traditional R/S beliefs.

To date, it appears that unitary measures of being R/S are positively associated with recovery from, and coping with, mental or physical illness. The longitudinal nature of the study by Koenig et al. (1995) provides support for the view that the use of religious/spiritual faith has beneficial effects for those who are coping with illness by helping to reduce levels of depression. However, it remains unclear whether or not these beneficial effects extend to the population more generally or are restricted to those experiencing ill health. The study by Koenig et al. (1995) was based on elderly males with illness, and the body of research into religious coping more generally relies heavily on older samples. Thus, it is unclear if religiousness and spirituality are important predictors of mental health for younger healthy samples.

Findings from the Baetz (2004) population study of depression among Canadians suggest that participation in religious activities protects against depression while strong self-identification with spirituality/religiousness appears to place people at risk for symptoms of depression. It may be that the use of single measures for spirituality/religiousness masks a differential effect for those who perceive themselves to be religious and/or spiritual and also participate in the activities of religious organisations, those who perceive themselves as being religious but do not attend church, and those who perceive themselves as being spiritual but not religious because of their rejection of, or resistance to, organised religion and its doctrines.

It is also difficult to know whether there are links between religiousness, spirituality, and social behaviour, since this area has received little research attention. The evidence related to prosociality cited earlier only gives an indication of perceived prosociality or the lack thereof, according to self and others' ratings, and does not directly measure an individual's actual behaviour. However, it seems that those who place an emphasis on spirituality might have over-inflated perceptions of how prosocial they are, raising questions about the nature of their actual behaviour when interacting with others.

Overall, the extant literature on religion, religiousness, and spirituality alerts one to the salience of Pargament's (1999) warning that current approaches to the study of spirituality lack grounding in either theory or research. The notion that religion/spirituality acts as a coping resource and thus serves to improve health outcomes stands out as perhaps the most coherent

theoretical argument proposed thus far, with a growing body of empirical literature lending support to its central hypothesis. Yet it remains that the beneficial effects observed from religiousness and spirituality might be confined to situations involving extreme personal stress such as terminal illness or disability. It cannot be assumed that these same benefits extend to the circumstances of normal, day-to-day living.

Moreover, the recent reification of the concept of religion into religiousness and spirituality (see for example literature reviews by Larson & Larson, 2003; McCullough & Larson, 1999) serves to exacerbate the methodological complexities associated with the study of religion in general. As a consequence, criticisms levelled at the scientific study of religion like that made by Wilfred Cantwell Smith (1991:12), that the concept religion is an “unintelligible entity” and is therefore “not a valid object of enquiry”, are likely to appear more and more justifiable unless researchers clearly delineate the conceptual and theoretical basis for their research. Beyer (2003) points to the need for researchers to severely circumscribe their research, giving due consideration to its socio-historical context, in order to counter arguments that religion is “fundamentally misleading as a scientific concept” (Beyer, 2003:141). Indeed, Jonathan Z. Smith (1982:xi) argued more than two decades ago that religion is “solely the creation of the scholar’s study” and has “no independent existence apart from the academy”. Certainly, the meanings ascribed to the words “religion” and “spirituality” must necessarily reflect the socio-cultural and historical contexts in which these terms are used. If these contexts are ignored, the meanings ascribed to these terms by members of the general population may bear little resemblance to those ascribed to them by the academic community. Beyer (2003) argues that scientific, theological, and official meanings ascribed to the concept of religion need to be differentiated from one another, since many of the controversies about how religion is conceptualised are fuelled by disparate notions of what “counts” as religion. He further argues that the study of religion needs to be reoriented, such that there is a “theoretically grounded repartition of approaches to the concept of religion”, in order to avoid the contestations that surround this concept (Beyer, 2003:143).

The current tendency for researchers to report findings as being related to “religion” and “spirituality” tends to be misleading, given that there is little consensus on the meaning of these terms. The myriad ways in which these concepts are being defined and measured require that researchers clearly detail the specific dimensions of religion or spirituality that are being investigated and that their respective interpretations of findings reflect the limited nature of measures used. Table 2 below summarises the conceptual frameworks used for religion (or religiousness) and spirituality in the research cited in this section that relate specifically to the

outcomes of interest to this thesis, namely, affective disorders (depression and anxiety), delusional ideation, and antisocial behaviour (aggression and delinquency). This summary shows clearly the lack of conceptual consistency across studies that have investigated these relationships in recent years.

Table 2: Summary of conceptual frameworks used to assess relationships between religiousness/spirituality and depression, anxiety, delusional ideation, and antisocial behaviour

Study	Constructs	Indicators/operational definitions
<i>Affective disorders</i>		
Baetz et al. (2004) (depression)	Worship services attendance	Frequency of church attendance
	Salience of religiousness/spirituality	Importance of the role of spiritual values or faith
	Being spiritual or religious	The extent individuals consider themselves to be spiritual or religious
Corrigan et al. (2003) (depression and anxiety)	Religious	Participation in a community of people who gather around common ways of worship
	Spiritual	Those who see themselves as part of a larger spiritual force
Davis et al. (2003) (anxiety)	Religious/spiritual meaning	Effort made to make meaning out of life through religious/spiritual beliefs
	Pursuit of a relationship with the divine	Pursuit of a relationship with a higher force, being, power, or God
	Spiritual wellbeing	One's sense of wellbeing in relation to God and one's sense of life purpose and life satisfaction
Kaldor and Francis (2002) (positive, negative and balanced affect)	Belief in God	Four categories of belief – "There is a personal God"; "There is some sort of spirit or life force"; "I don't really know what to think"; "I don't really think there is any sort of spirit, God, or life force".
	Church attendance	Frequency of church attendance
	Personal prayer	Frequency of personal prayer
Pearce et al. (2003) (depression)	Being religious or spiritual	Identification with being a spiritual or religious person
	Religious/spiritual support	Using religious/spiritual community as a source of support
Wink et al. (2005) (depression)	Religiousness	Importance of institutionalised beliefs and practices
	Spirituality	Importance of noninstitutionalised beliefs and practices
Wright et al. (1993) (depression)	Religious/spiritual meaning	Effort made to make meaning out of life through religious/spiritual beliefs
	Spiritual support	Seeking spiritual support
<i>Delusional ideation</i>		
Saucier and Skrzypinska (2006)	Tradition-oriented religiosity	Self-identification with spirituality expressed through traditional religious beliefs and practices*
	Subjective spirituality	Self-identification with spirituality expressed through mysticism*
<i>Antisocial behaviour</i>		
Good & Willoughby (2006) (aggression and delinquency)	Religiosity	Frequency of church attendance
	Spirituality	Belief in God or a higher power
Resnick et al. (1993) (aggressive and disturbed behaviour)	Spiritual connectedness	Identification with being a religious or spiritual person

* See pages 61 and 62 for detailed list of instruments used to differentiate tradition-oriented religiosity from subjective spirituality

Of these ten studies, only two (Davis, Kerr, & Kurpius, 2003; Wright, Frost, & Wisecarver, 1993) have used the same construct and indicator for investigating a dimension of the concept religion/spirituality – “religious/spiritual meaning”, measured by self-identification with the terms “spiritual” or “religious”. While three studies have used self-identification with being a religious or spiritual person to measure spirituality (Baetz, Griffin, Bowen et al., 2004; Pearce, Little, & Perez, 2003; Wright, Frost, & Wisecarver, 1993), one of these studies (Resnick, Harris, & Blum, 1993) conceives this to represent “spiritual connectedness”, rather than simply an individual’s self-perception of being religious or spiritual.

The following section reviews literature based solely on traditional measures of religion. As highlighted in Section One, the following discussion highlights that the multidimensional nature of religion has led researchers to conceptualise and measure the concept religion in many different ways, with many of their studies ignoring the heterogeneity of groups by simply assigning individuals to particular groups by virtue of the frequency of their participation in religious services, or engagement in prayer or Bible study. Thus, those who hold strong traditional religious beliefs and values but do not meet these particular criteria are likely to be deemed ‘non-religious’. In addition, those who do participate in religious services but who reject religious doctrine and authority (and perhaps tend towards New Age beliefs and practices) might easily be assigned to ‘religious’ categories, despite their antagonistic attitude to religion, in studies where single measures of church attendance are used as the basis for group assignment. This is especially relevant for all those studies conducted from the 1970s onwards, when the widespread shift away from institutionalised religion and the rise of the New Spirituality became apparent.

Section Two: Research evidence using traditional measures of religion, mental health and social behaviour

Subsequent to Durkheim’s (1952 [1897]) research showing differential patterns of mental illness and suicide according to religious faith, numerous studies have examined the relationships between various measures of religion and mental health and social behaviour. At a superficial level, based on the number of positive, negative, and null effects found across studies, one could conclude that overall, religion is more beneficial than it is harmful. For example, Bergin (1983) who conducted a meta-analysis of studies from 1950 to 1980 that included at least one measure of religiosity and one measure of mental health status, found that religiosity appeared to have a beneficial effect on mental health outcomes in 47 per cent,

no effect in 30 per cent, and a negative effect in 23 per cent of the studies he examined. However, inconsistent and often contradictory findings on the relationship between religion and mental health have led some reviewers (Levin & Vanderpool, 1987; Sanua, 1969) to argue that there is no basis for supposing a relationship between the two, and others (for example Argyle, 1959; Scott, 1961) to conclude that no relationship exists at all (Gartner, 1996). Given that previous discussion highlights that single measures of religiosity are insufficient for determining the multifaceted nature of religion, it is not surprising that Bergin's meta-analysis revealed inconsistent findings across studies.

In recognition of the problems associated with the use of single measures of religion to determine relationships between religion and mental health, Ventis (1995) investigated differences in the association between religiosity and mental health across a range of studies where multiple measures of religion were incorporated. Ventis (1995), using a psychological approach, classified the independent variables from 197 findings derived from 61 studies, according to whether religion was used by individuals as a means, ends, or quest, conceiving that these domains tapped *religious inclination* (Batson, Schoenrade, & Ventis, 1993). It was found that religion as *means* (roughly equivalent to extrinsic religion) had predominantly negative associations with mental health indices such as absence of mental illness (11 negative, one positive, and seven showing no association) and appropriate social behaviour (four negative, zero positive, and one showing no association). By contrast, religion as *ends* (roughly equivalent to intrinsic religion) was found to have a predominantly positive relationship with the mental indices under examination. Eleven positive, one negative, and seven null associations were found for intrinsic religion and absence of mental illness, and five positive associations and one negative association were found for intrinsic religion and appropriate social behaviour. Religion as *quest*, a construct devised to capture a religious orientation that is "prominent for individuals who are concerned with religious issues but are open-minded to the possibility that there might be no certain answers to these questions" was found to have no positive associations, one negative association, and two null associations with the absence of mental illness (Ventis, 1995:36). No data was available for examining associations between religion as quest and appropriate social behaviour.

These results might be taken by some to suggest that mental health is better for those whose religious commitment involves the internalising of religious norms (thus leading to more prosocial behaviour) than it is for those whose religious faith is based on the need for support or status. It is equally plausible however, that those who have mental health problems are more likely to report that they seek social and emotional support from religion since it is

likely that support becomes an issue when health problems are present. Furthermore, the intrinsic-extrinsic distinction has been the subject of much criticism since its original formulation by Allport (1959), for lacking conceptual clarity (Gorusch, 1984) and because factor analytic studies have revealed a more complex underlying structure than is suggested by the binary intrinsic/extrinsic classification (Kirkpatrick, 1989).

Criticism levelled at the measurement strategies used in religious research continues to fuel debates about whether there is any real relationship between religion and mental health and social behaviour. Spilka and Werne (1971) argued in the early 1970s that “methodological complexities” are the most likely reason for observed inconsistencies in research findings on religion, rather than an indication that religion has no real relationship with mental health and behaviour. In order to test Spilka’s and Werne’s thesis, Gartner (1996) reviewed around 200 studies giving due consideration to both measurement strategies and the aspect of mental health being examined.

Gartner (1996) conducted a computer search on *Psychology Abstracts* for the period from 1979 to 1989, using the letters *religi* and any one of 30 terms denoting psychopathology or an aspect of it, like anxiety for example, as search criteria. Gartner (1996) found that associations between religion and various outcomes largely depended on the measures used in each study. His findings are discussed below along with results from other studies according to specific categories of mental illness and social behaviour that are directly relevant to this thesis.

Religion and depression

In relation to depression, Gartner (1996:194) concluded that most of the evidence indicates that religiosity is associated with lower levels of depression. Four studies (Brown & Lowe, 1951; Hertsgaard & Light, 1984; Mayo, Puryear, & Richek, 1969; McClure & Loden, 1982) found a negative relationship between religious commitment and depression, and only one (Gupta, 1983) found higher levels of depression in religious subjects. Since Gupta’s study was conducted on a sample of Tibetan adolescents, Gartner (1996:194) speculated that this discrepant result might be due to cultural factors specific to Tibet. Another study (Spendlove, West, & Stanish, 1984) found infrequent church attendees to be twice as likely to be clinically depressed, but this relationship was no longer significant after adjustment for education, caring from spouse, health and income.

Another review by McCullough and Larson (1999) considered 80 studies of religion and depression that were conducted over the past 100 years. Their review draws attention to the multidimensional nature of religion and the range of different relationships that have been

observed between various measures of religion and depression. In regard to religious affiliation for example, they note that Jews have consistently been found to have a higher risk for depression across numerous studies, and Pentecostals appear to be more prone to depression than non-Pentecostals according to four studies. Among 29 studies incorporating measures of religious organisational involvement (usually frequency of church attendance), 24 found that involvement with religious organisations was associated with lower levels of depressive symptoms. The remaining studies found either no association between religious organisational involvement and depression, or an association so small as to be nearly zero. Multi-item measures of beliefs and behaviours identified by McCullough and Larson (1999:130) as measures of “general religious involvement”, including indicators of, for example, church attendance, private religious practices such as prayer, and self-rated importance of one’s faith, have generally been shown to be negatively associated with depressive symptoms. However, McCullough and Larson (1999:130) highlight that studies that control simultaneously for factors such as religious affiliation and public religious involvement tend to find that the significance of associations between general religiousness and depression falls to trivial levels. They also conclude that frequency of prayer and private religious activity has a tenuous relationship with depression, and that religious motivation assessed by single-item measures show only weak relationships with lower levels of depressive symptoms (McCullough & Larson, 1999). By contrast, multi-item measures of intrinsic religion have been shown to have a persistent negative relationship with depressive symptoms, with a persistent inverse relationship being observed for multi-item measures of extrinsic religion. It remains unknown of course from McCullough’s and Larson’s research (1999) what mechanisms actually protect religious individuals from depression – whether it is the valuing of religious faith, the sense of meaning religion provides the individual, the beliefs that are embraced by religious individuals and how these affect their daily lives, the social support that accompanies involvement with religious organisations, or the combined effect of two or more of these factors. This again raises the issue of the multidimensional nature of religion, and the difficulties associated with interpreting observed effects.

More recent studies provide further evidence of the link between religion and depression. One study conducted in the Netherlands suggests that the importance placed on religion is associated with a reduction in risk for developing depression. Using a one-year follow-up of participants, Braam (1997) found that those who indicated that a strong religious faith was one of the three most important factors in their life had significantly lower risk for becoming depressed compared to those who did not ascribe such importance to their religious

faith. Among elderly depressed patients hospitalized with a medical illness, a 10-point increase in an intrinsic religion score was found to be associated with a 70 per cent increase in speed of remission from depression, even after controlling for multiple demographic, psychosocial, physical health and treatment factors (Koenig, George, & Peterson, 1998).

Little research attention has been directed toward the relationship between religion and depression among younger age groups. Schapman and Inderbitzen-Nolan (2002) sought to address this gap in the literature by enrolling 261 participants aged between 13 and 18 years from urban middle and high schools in a Midwestern, mid-sized city in the United States. Seventy-three participants were Christian, 11.5 per cent reported having no religious affiliation and 2.3 per cent were affiliated with non-Christian religions. Affiliation data was missing for 13.2 per cent of the sample. Participants were grouped on the basis of religious activity assessed from scores on the Religious Behaviour Questionnaire (RBQ) and depression was assessed from student responses to *the* Child Depression Inventory (CDI) (Kovacs & Beck, 1977). Frequency of attendance at formal services, and attending religion class were both found to be negatively related to CDI subscales of interpersonal stress ($r = -0.17$; $r = -0.16$), ineffectiveness ($r = -0.22$ $r = -0.22$), and anhedonia ($r = -0.20$; $r = -0.19$) (all significant at $P \leq 0.01$). Frequency of praying outside of formal services was negatively associated with interpersonal distress ($r = -0.27$) and ineffectiveness ($r = -0.19$) ($P < 0.01$). Frequency of reading the Bible was unrelated to any of the CDI subscales, and no significant correlations were found between any of the religious activity measures and negative mood and negative self-esteem.

Religion and anxiety

Gartner (1996:195), like Sanua (1969) and Bergin (1983) before him, concluded that findings on the relationship between religion and anxiety are inconsistent. Gartner (1996) drew this conclusion after observing that four studies reported religious subjects as being more anxious (Gupta, 1983; Hassan & Khalique, 1981; Spellman, Baskett, & Byrne, 1971; Wilson & Miller, 1968), and three studies reported them as being less anxious than non-religious subjects (Hertsgaard & Light, 1984; Williams & Cole, 1968) or less anxious after participation in religious pilgrimage (Morris, 1982), and three studies reporting no relationship between anxiety and religiosity (Brown, 1962; Epstein, Tamir, & Natan, 1985; Heintzelman & Fehr, 1976).

More recently, Shreve-Neiger and Edelestein (2004) conducted a review of the literature on religion and anxiety, reporting results from 16 studies conducted between 1962 and 1997,

and like Gartner (1996), observed inconsistent findings across studies. Only three studies were reviewed by both Shreve-Neiger and Edelstein (2004) and Gartner (1996) in their respective reviews. Shreve-Neiger and Edelstein (2004) give detailed accounts of the samples, measures and methods used by the studies under examination and highlights the lack of conceptual and methodological uniformity within religious research, as well as the inconsistency in findings (11 beneficial effects, seven harmful effects, and five null associations were found between various measures of religiosity and anxiety). A summary table of Shreve-Neiger's and Edelstein's (2004) findings has been prepared and is provided in Appendix B as a means of highlighting the methodological complexities associated with religious research in general, and the difficulties one encounters when attempting to draw conclusions about the mental health-religiosity relationship from available evidence. Most notable is that out of the 16 studies examined, four used samples comprising only those who were religiously affiliated or involved with religious organisations (Baker & Gorusch, 1982; Finney & Malony, 1985; Petersen & Roy, 1985; Tapanya, Nicki, & Jarusawad, 1997), and thus their analyses are restricted to different levels of religiousness and have no capacity to inform us about the influence of religion by comparing religious and non-religious individuals. Eight of the studies are based on undergraduate student samples (Bergin, Masters, & Richards, 1987; Brown, 1962; Fehr & Heintzelman, 1977; Frenz & Carey, 1989; Heintzelman & Fehr, 1976; Sturgeon & Hamley, 1979; Williams & Cole, 1968; Wilson & Miller, 1968), and thus their findings only relate to young adults with high educational status and may be confounded by students' subjective perceptions of how they should respond within an educational setting. Only one study used measures taken at more than one time point (Williams, Larson, Buckler, Heckmann, & Pyle, 1991). Overall, the evidence reviewed by Shreve-Neiger and Edelstein suggests that more frequent church attendance is related to lower levels of anxiety (Hertsgaard & Light, 1984; Petersen & Roy, 1985; Williams, Larson, Buckler et al., 1991), that within a rural setting Catholic women appear to be more anxious than women of other affiliations (Hertsgaard & Light, 1984), and that those whose religious orientation is intrinsic in nature appear to be less anxious than those with an extrinsic religious orientation (Baker & Gorusch, 1982; Tapanya, Nicki, & Jarusawad, 1997; Wilson & Miller, 1968). The study by Spellman et al. (1971) indicates that sudden religious conversion is associated with higher levels of anxiety, compared to regular church attenders and those who never attend church. Whether the higher anxiety levels observed among the converted in this study preceded or followed the process of conversion is unknown. Engagement in numerous religious activities including church attendance, personal prayer, reading religious materials, Sunday school attendance, and other

church-related activities appear to be linked to lower levels of anxiety in early adulthood (Williams & Cole, 1968). Shreve-Neiger and Edelstein (2004:284) concluded from this finding that either “more secure persons tend to become religious, religion facilitates security, or religious individuals do not openly admit their insecurities”. However, it needs to be borne in mind that all but one of the studies reviewed by Shreve-Neiger and Edelstein rely on evidence gathered between 15 and 44 years ago, with the most recent study by Tapanya and colleagues being undertaken nearly a decade ago. Thus, the majority of these findings may hold little relevance to religiosity within a contemporary setting.

Apart from evidence gathered from undergraduate samples, little research attention has been directed towards the association between religion and anxiety among population samples of younger age groups. However, Schapman and Inderbitzen-Nolan (2002), who examined depression among adolescents from urban middle and high schools in the United States, also investigated levels of anxiety according to student responses to the 37 items that form the *Revised Children’s Manifest Anxiety Scale* (RCMAS) (Reynolds & Richmond, 1978). The only significant correlations found between religious activities and anxiety involved attendance at formal religious services and religion classes and physiological (and not psychological) indicators of anxiety. Both correlations were negative but weak (both $r = -0.13$; $P < 0.05$).

Religion and delusional thoughts

The evidence cited in Section One of this chapter identified new forms of religiosity as being strongly linked to delusional ideation. Studies that have used traditional measures of religion such as religious affiliation and levels of religious activity, have tended to focus on delusional ideation that is religious in content, rather than a broad spectrum of content. For example, Getz and colleagues (2001) found that Protestants were more likely to report religious delusions than Catholics ($OR=3.8$, $95\%CI=1.3,11.1$ $P < 0.02$) and to report more religious delusions than the non-affiliated group ($OR=2.5$, $95\%CI=1.0,6.5$ $P < 0.06$). No differences were found in the frequency of delusions between African-American Protestants and Caucasian Protestants. When examining all patients, and adjusting for race, the amount of religious practice (measured from a Likert scale 0 = “not active” to 4 = “very active”) was associated with higher ratings of religious delusions ($R = 0.27$, $P < 0.01$). However, no differences were found between Catholics, Protestants and those non-affiliated with any religion in regard to the severity of religious delusions, as indicated by levels of preoccupation with delusional beliefs ($F = 0.95$, $df = 2$, $P = 0.40$).

Earlier studies show that there is an increase in the strength of religious beliefs following

psychiatric illness (Kirov, Kemp, Kirov, & David, 1998), that delusions that are religious in theme or content are common among psychiatric patients with psychotic symptoms (Brewerton, 1994; Neeleman & Lewis, 1994), and that psychiatric patients have stronger religious beliefs than practising non-psychiatric patients, regardless of demographics, ethnicity, or social class (Kroll & Sheehan, 1989; Neeleman & Lewis, 1994).

The study by Peters et al. (1999) reported in Section One of this chapter, has shown that when a broad spectrum of delusional content is assessed, there are no significant differences in the total number of delusional ideation items endorsed by Christians (mean 7.2; standard deviation 5.0) and those unaffiliated with a religion (mean 6.5; standard deviation 5.0).

The link between religiosity and psychosis warrants further investigation. Even though delusions with religious themes or content are common among psychiatric patients with psychotic symptoms, and religious beliefs have been found to be strengthened following psychiatric illness, the lack of available longitudinal data prevents any conclusions being made that the religiously inclined are prone towards psychosis, since it is equally plausible that mental illness itself precipitates delusions of a religious nature. Moreover, the increase in paranormal beliefs and mystical experiences, and the development of many NRMS that actively promote these kinds of beliefs and experiences indicate a need to investigate whether religious, paranormal, and mystical beliefs serve to maintain or undermine healthy functioning.

Religion and social behaviour

In regard to delinquency, Gartner (1996) found from the studies he reviewed (conducted by Argyle & Beit-Hallahmi, 1975; Lea, 1982; Sanua, 1969), that delinquents were no less religious in their beliefs than non-delinquents, and that the rate of church attendance in a community was not correlated with the crime rate (Sanua, 1969). However, personal church attendance was found to correlate negatively with delinquency in five of six studies reviewed by Argyle and Beit-Hallahmi (1975). Gartner (1996) argues that while these findings may appear to be inconsistent at first glance, closer inspection of these results shows that there is a consistent negative correlation between religious *participation*, but no relationship between religious *beliefs*, and delinquency. However, findings from more recent research by Benda and Corwyn (1997) suggests that church attendance measures alone are insufficient for determining relationships between religiosity and delinquency, particularly among adolescent samples. Benda and Corwyn (1997) argue that church attendance among the young is likely to reflect family or peer pressure, more than it does religious commitment, and their findings support this position. Their study investigated status offences (running away, fake excuses for

absences from school, and skipping school), property crime (breaking and entering, theft from lockers, and stealing), and person crimes (gang fights, robbery by force, and other fighting) among 724 public high school students randomly selected and evenly distributed across grades 9 through 12 from three schools in Arkansas. One factor *evangelism*, based on a five-point scale measuring how often individuals spend time “talking about religion with family and friends”, “sharing joys and problems of religious life”, and “trying to convert someone”, stood out as protecting against criminal behaviour while other factors related to religiosity and key demographic influences were unrelated. Using multiple hierarchical regression analyses, it was found that evangelism was significantly and negatively associated with criminal offences, while no significant associations were found for race, father’s education, age, family structure, residence (rural or urban), religiosity (as assessed by a summed measure of time in prayer, Bible study, and financial contribution to church organisations), or church attendance. Benda and Corwyn (1997) concluded that their measure of “evangelism” is likely to tap the application of religious doctrine more directly than measures like church attendance, Bible study, or prayer. Status offences by contrast, were found to be unrelated to any of the religious variables under study, with significant associations only being found for age (positive) and residence in a rural location (negative).

A recent systematic review of studies conducted between 1987 and 1997 (Johnson, De Li, Larson et al., 2000) suggests that overall, religiosity is negatively associated with delinquent behaviour. Considering 40 studies, with sample sizes ranging from 123 to 34,129, Johnson et al. (2000) deduced that the majority of studies (75.0%) found a negative effect on delinquency and that five studies (12.5%) found no effect, three (7.5%) found a mixed effect, one (2.5%) found a positive effect, and one (2.5%) did not specify any effect. Johnson and colleagues (2000:44-45) observed that studies based on reliable measures of religious commitment appeared more likely to find a negative or beneficial relationship between religiosity and delinquency than those which failed to assess the reliability of their measures.

In regard to aggressive behaviour, Benda and Toombs (2000) investigated whether church attendance or a multiple measure of religiosity (regular church attendance, Bible study, prayer, and efforts to convert others) better predicted crimes against persons or violence among 600 male inmates of an Arkansas boot camp, aged between 14 and 47 years (mean age: 25.3). Religiosity was found to be inversely related to violence after adjustment for a wide range of demographic, familial, behavioural, and individual factors, while church attendance was not.

Religious background and development

Luckmann (1967) argued nearly four decades ago, that there may be a long-lasting effect of parental religious tradition on their offspring, even if offspring appeared to reject the religious tradition of their parents. Luckmann (1967) suggested that the religion of parents, which he termed “official religion” would eventually die out with succeeding generations, leading to the uptake of a religious outlook that might be completely different to this “official religion”. The possibility that religious values and beliefs instilled in children during the developing years continue to exert some influence over the long-term raises the question of whether an individual’s religious background is connected to his or her mental health and social behaviour in adulthood. Religious values and beliefs that are inculcated in childhood, may help shape an individual’s attitudes to substance use and other risky behaviours, and his or her perception of themselves, sense of moral duty and obligation to others, and social behaviour. School-based programs aimed at reducing health-risk behaviours among 18 year-olds (multiple sexual partners and heavy alcohol consumption) have been found to be effective, when begun in the early primary school years (grades 1 and 2) and implemented again in late primary school (grades 5 and 6), and to have no effect when restricted to late primary school (grades 5 and 6 only) (Hawkins, Catalano, Kosterman, Abbott, & Hill, 1999). This evidence suggests that childhood (around six to seven years of age) may be a crucial stage for the shaping of values, beliefs, and attitudes that persist over the long term. There is now increasing interest in the role of family and cultural norms for their influence on the development of competent and resilient youth (Varon & Riley, 1999).

Findings from cross-sectional studies show regular maternal church attendance is negatively associated with adolescent aggression (McCullough & Larson, 1999), and that frequent child church attendance is associated with lower levels of aggression and less likelihood of getting into fights among 11 year olds (Abbotts, Williams, Sweeting, & West, 2004). While Varon and Riley (1999) found that there was no association between maternal church attendance (or family income) and delinquent behaviour among 11 to 13 year olds, they did observe that maternal church attendance was a stronger predictor of some aspects of child mental health and social functioning than traditional demographic measures such as gender, race, mother’s religion, or maternal education. Youths whose mothers attended religious services at least once a week were found to have greater overall satisfaction with their lives, more involvement with their families, better skills in solving health related problems, and felt greater support from friends than those whose mothers had lower levels of participation in religious services.

Negative associations have also been found between frequent church attendance and suicide attempts among 15 to 24 year olds (Kirmayer, 1998) and suicide ideation among 14 to 25 year olds (Kirmayer, Malus, & Boothroyd, 1996). However, it is argued that church attendance might not be a good measure for investigating causal associations between religiosity and suicide, since depression and other conditions are likely to reduce activity levels in general, including attendance at religious services (Matthews et al. 1998). Yet findings from a study that investigated religious commitment rather than religious activity lend support to the view that religiosity might protect against suicide. Using a sample of 1098 Catholics with a mean age of 15.9 years, Greening and Stoppelbein (2002) found that personal commitment to core Christian beliefs was inversely related to self-perceived suicide risk.

From the evidence cited above, it remains difficult to know the nature of the actual mechanisms that might be involved in the negative associations between church attendance and child aggression and adolescent/young adult suicide risk. Church attendance of either mother or child may reflect the child's internalisation of norms that prohibit aggressive behaviour – either directly through the doctrines taught within church organisations, or indirectly through the values instilled in the child by church attending mothers. Cross-sectional data also gives no indication as to the degree that the negative associations between maternal and child church attendance and child aggression are a reflection of current involvement with religious organisations or a consequence of values and norms that were instilled in the child at an earlier stage of their lives.

Summary of evidence related to religion

From the review of the empirical literature provided above, it appears that regular participation in religious services is predominantly associated with lower levels of depression, though the observed effects appear to be somewhat modest. Depression among women has been found to vary according to religious affiliation. The findings related to anxiety are inconsistent and those studies that have used young adult samples have largely been convenient samples and provide little insight into the association between religion and anxiety for young adults within the general population. The body of evidence related to religion and delusional ideation suggests that religious ideation differs by religious affiliation, and that members of NRMs have much higher levels of delusional ideation than Christians. However, from the available empirical data, it remains unclear whether the delusions reported by NRM members lead them to join NRMs, or if NRM membership leads to delusional ideation. Regular church attendance by mothers or their offspring appear to be strongly related to lower

levels of offspring aggression and delinquency. Whether these associations reflect the influence of religious participation at the time aggression or delinquency is measured more than they do the religious values that were inculcated during childhood is unclear. Most importantly, the bulk of the extant literature on religion and anxiety, depression, and antisocial behaviour rests on data gathered one or more decades ago and may therefore have little relevance to a contemporary setting. In addition, this set of literature does not consider forms of religiosity that remain invisible when studies use constructs and measures that tap only traditional forms of religion and religiousness.

It is also noteworthy that even though the move away from institutionalised religion towards privatised religion was evident as far back as the 1970s, with this period corresponding with the rise in popularity of New Age beliefs and the development of many NRMs, the majority of researchers have persisted in using outdated theoretical frameworks to investigate the religion-mental health relationship. Non-traditional beliefs might be of central importance to some churchgoers and thus confound results that are attributed to participation in church or religious services, just as traditional religious beliefs among non-churchgoers might confound findings attributed to those who never attend church. Overall, Krause's (1993) identification of religious beliefs as being the most under-researched component of religion appears to be as true today as it was more than a decade ago.

Efforts to grapple with the influence that privatised forms of religiosity, whether traditional or non-traditional in nature have only really begun to be made during the past decade, with the inclusion of religion/spirituality as a concept that covers both privatised/institutionalised and traditional/non-traditional forms of religiosity. Yet even this can only be considered as a 'first step' towards investigating religiosity as it exists today's world.

A significant weakness of some research into religion is that the "no religion" group is often left out of analyses or that convenient samples are used, providing little insight as to the extent that religion influences people's mental health and social behaviour at a population level. Criticism is often levelled at the reliance on single measures of religion to determine religion-mental health outcomes among large populations. Yet it remains that many population datasets only have single measures of religion due to lack of interest in this area among those responsible for survey designs. The inclusion of multiple measures of religion also raise issues of participant "burn-out" in cases where survey forms are already lengthy and those interested in the area of religion have to compete with other researchers for space for survey items. This is no doubt one of the reasons for some researchers having opted to use

singular measures of religiousness/spirituality, rather than separate measures.

Perhaps most important however is that the scientific study of religion (and spirituality) often fails to consider that religion exists within particular social, political, cultural and historical contexts. These aspects require due consideration when interpreting evidence related to religion and spirituality and also raise doubts about the legitimacy of attempts aimed to determine the extent that religion is beneficial or harmful “overall”, especially when the evidence being assessed spans different time periods (for example Gartner’s review spanned studies conducted over 100 years).

The quality of evidence related to religion, spirituality, and mental health and social behaviour

In order to draw conclusions about the quality of available evidence on religion, spirituality, and the outcomes of interest in this thesis, it is necessary to focus on the body of literature discussed in Section One of this chapter. The studies reviewed in this body of literature examine a range of dimensions of religiousness and/or spirituality that encompass beliefs, organisational involvement, R/S orientation, self-ratings of being religious and/or spiritual, and subjective assessments of an individual’s commitment to, and self-perceived importance of, religion and/or spirituality. Those studies that rely on conflated measures of religion (or religiousness) and spirituality provide some insight into differences in outcome between individuals who are religiously and/or spiritually inclined and those who are conceived to be neither religious nor spiritual. Alternatively, these studies provide an indication of the extent that outcomes differ according to different levels of religiousness/spirituality. However, conclusions drawn from interpretations of the results of these studies are necessarily constrained by, and dependent upon, the operational definition used for the construct religiousness/spirituality in each study. Binary, categorical measures of this construct assume religiousness and spirituality to be a single phenomenon that sets individuals apart from others who are “non-religious/non-spiritual” – thereby reducing a multidimensional phenomenon to a simplistic binary construct. While Likert scales serve to avoid this oversimplification of complex phenomenon to some degree, they still assume that an individual’s level of religiousness and spirituality lies somewhere on a continuum between two extremes, such as “very religious/spiritual” and “not at all religious/spiritual”. These binary and continuum approaches to the study of religiousness and spirituality inevitably disregard the social, political, cultural, and historical factors that have given rise to the development of non-religious varieties of spirituality and the manifold ways that religious and

non-religious varieties of spirituality deviate from one another in terms of beliefs and practices. Unitary measures of the concept *religiousness/spirituality* would thus seem to be of little value within investigations aimed at determining the influence of contemporary religiosity on mental health, social behaviour, or other domains of mental and emotional wellbeing. The strength of those studies that have used measures (single or multiple) which distinguish religion from spirituality clearly lies in their capacity to identify the presence or absence of associations between each of these orientations and specific outcomes of interest and the similarity or otherwise of their respective associations. However, the majority of studies that have differentiated spirituality and religion are cross-sectional in design and thus it is unclear whether observed associations reflect causality, reverse causality, or the effects of confounding in instances where potential confounders have not been considered in statistical analyses.

While prospective longitudinal studies provide an opportunity to disentangle the causal sequence involved in relationships found between religiousness and spirituality, and mental and behavioural outcomes, only one study that has used prospective longitudinal data for this purpose was available for review in this thesis (Wink et al. 2005). One particular strength of this study is that the sample was assigned to the categories religiousness and spirituality through the incorporation of both qualitative and quantitative methods (interviews and questionnaires), with a range of institutionalised and non-institutionalised beliefs and practices being considered. This mixed methods approach has advantages over secondary data analysis alone since this approach enables consideration of the meanings individuals ascribe to their religious and spiritual beliefs and practices, as well as the self-perceived importance of religiousness or spirituality in these same individuals' lives. However, the use of a mixed methods approach for assignment of individuals to "religious" or "spiritual" categories may be infeasible for very large longitudinal studies due to the costs and logistics associated with interviewing an entire cohort involving thousands of participants. For example, the Wink et al. (2005) study is based on an original sample of 505, with a total of 300 individuals taking part in at least one of the three interviews conducted between early and late adulthood. A total of 184 (61.3%) of this 300 were available for interview in late adulthood. The numbers interviewed during the three interview phases were 156, 151, and 143 respectively (representing 30.1%, 29.9%, and 28.3% of the original sample). Thus, less than two hundred interviews were conducted during any one phase, making it much more feasible for this particular study to incorporate both a qualitative and quantitative component in follow-ups for the purpose of group assignment, than is feasible for studies that track and undertake follow-ups on much larger samples. The incorporation of a qualitative component in larger studies is

more likely to be feasible however, if based on data gathered from sub-groups. This has the advantage of providing a means to explore the nature of mechanisms that might be involved in associations observed from secondary data analysis between measures of religion and spirituality, and the outcomes of interest for an entire cohort. However, the feasibility of this particular approach is necessarily dependent upon the scope of a given study, and the extent that additional follow-up is conceived to threaten the future viability of an ongoing study by compromising response rates at future phases among those selected for sub-groups.

The level of attrition in the Wink et al. (2005) study also raises issues of attrition bias – a problem common to all longitudinal studies that follow participants over time, especially when follow-ups take place over an extensive period. While Wink et al. (2005) highlight that prior analyses of the data used in their study revealed very little bias from sample attrition, other than a slight tendency for lower participation rates among individuals with lower levels of education, this study may also be subject to sampling bias. The original study sample comprises samples taken from three separate studies. These include one birth cohort (systematic selection of every third child born, $n=248$), 61 healthy full-term infants born at two separate hospitals (16 of which were members of the same birth cohort, but this particular sample was restricted to offspring of white, English speaking parents). The third study's sample comprises 212 youngsters from five different elementary schools in California who signified their intention to attend the specific junior high school in Oakland, California that formed the centre of observation for the Oakland Growth Study. These youngsters were approximately seven years older than the birth cohort samples and were limited to Caucasian children (Huffine & Aerts, 1998). The study sample as a whole therefore represents a mix of sampling methods drawing from a cohort born in Berkeley, California, and children aged 10 to 12 years attending school in the California region.

The availability of longitudinal data in the Wink et al. (2005) study enabled researchers to consider key potential confounders in their effort to determine whether religiousness and spirituality provide a buffer against depression associated with poor physical health. They were thus able to demonstrate that the negative association observed between religiousness in early adulthood and depression in late adulthood was independent of wellbeing (used as a proxy for depression) and poor physical health at earlier stages of the life course, and was also independent of the magnitude and strength of social networks that individuals had available to them in late adulthood. However, it remains unclear whether or not socioeconomic factors confound this association, since no measure of socioeconomic status was included in the statistical models used for analyses. Nevertheless, a major strength of this study lies in its

capacity to reveal differential relationships between religiousness and between spirituality, measured concurrently and at earlier stages of the life course (early and middle adulthood) and depression in late adulthood, while simultaneously controlling for pre-existing health problems and low levels of wellbeing. The methodological approach used by the Wink et al. (2005) study has significant advantages over other studies that treat religiousness/spirituality as a singular construct and those which use separate constructs but rely on cross-sectional data. The former precludes the detection of differences in outcome between the religiously and spiritually inclined, while the latter approach prevents determinations being made about the causal sequence that might be involved in observed associations.

From the discussion above it becomes clear that the multidimensional nature of the concepts religion and spirituality, as well as the respective strengths and weaknesses of quantitative and qualitative methods, creates substantial challenges for researchers who seek a comprehensive understanding of the religion- and spirituality-mental health relationships. Nevertheless, Zinnbauer and colleagues (1999:914) argue that despite the limitations associated with reliance on any one investigatory tool like case studies, surveys, narrative analyses, observational studies, correlational analyses, or experimentation, together these “supplement each other and yield a more complete picture of religious and spiritual experience”. While due attention needs to be given to the respective weaknesses of any one of these methods when interpreting the findings yielded from them, it remains that the complexity of the phenomena religiousness and spirituality is such that it is impossible for any one study to consider all of the dimensions involved in these phenomena. The limitations associated with any particular method/s used within an investigation into religiousness and spirituality and their respective relationships with mental health and behaviour therefore need to be weighed against the contribution this investigation makes to furthering our understanding of the connection between religiosity and health in general. The weaknesses associated with any given study also serve to inform the design of future studies that seek to refine and improve the methods used within this field of enquiry. In addition, each investigation draws attention to the current limits of our understanding of the religiosity-health relationship and is therefore instrumental in progressing efforts aimed at expanding the existing body of knowledge on this topic.

Having reviewed the empirical literature on the topics that are relevant to this thesis, the following chapter outlines the methodological approach used for the current study, giving due consideration to characteristics of the study sample and attrition rates over time.

Chapter Five: Methodology

This chapter outlines the methodological approach being used for the current investigation. The study sample is described in detail, as well as the measures and methods of secondary data analysis used in this research. Attrition rates among the study sample are also discussed.

Methods

Participants

Data were derived from the Mater-University Study of Pregnancy (MUSP), a prospective longitudinal study of maternal and child health. Consecutive pregnant women attending their first obstetric visit at the Mater Mothers Hospital in Brisbane, Australia between January 1981 and December 1983 were invited to join the study (N=8556) and 8458 (99%) agreed to participate. Enrolment was restricted to public patients. Public patients accounted for 46 per cent of all deliveries at the Mater Misericordiae Hospital between 1981 and 1983 (Ware, Williams, & Aird, 2006). Of the 8,458 who agreed to participate in the study, a total of 7,223 live singleton infants, 58 sets of twins, and one set of triplets were born at the study hospital between 1981 and 1984. The social and psychological characteristics of the study sample have been previously described (see Keeping, Najman, Morrison, Western, Andersen, & Williams, 1989). Follow-ups of the study mothers and their children were conducted at 3-5 days, 6 months, and 5, 14, and 21 years after the birth of the child. Medical records of the delivery were also accessed from the study hospital. Eligibility criteria for entry to the study were set as those mothers who delivered a live singleton infant at the study hospital, and whose child was alive when discharged from hospital (N = 7,223). About 70 per cent of the study children remained in the study at the 5-year and 14-year follow-ups, with some 60 per cent being available at both follow-ups. Around 52.3 per cent (N=3,777) participated in the 21-year follow-up between 2001 and 2004. The present analyses are limited to the birth cohort who participated in both the 21-year and 14-year follow-ups, and for whom data was available for all items of specific interest, including religious background information obtained from mother report at entry to the study and at the time of the 5-year follow-up. Sample sizes vary according to the availability of relevant data for each set of analyses, and are reported with the results in Chapter Six. Slightly more females (52.6%) than males (47.4%) participated in the 21-year follow-up (MUSP21), with the age of these young adults at this stage ranging between 18 and 24 years (mean age 20.6 years).

The original child cohort was born in one of Australia's large capital cities during the early 1980s, to mothers who were predominantly affiliated with a Christian religion at that time. Around 13.7 per cent of the study mothers reported that they were unaffiliated with any religion at commencement to the study, and 1.3 per cent reported being affiliated with a non-Christian religion. Even though the hospital where mothers were recruited for the study is a Catholic hospital, slightly more of the study mothers were Anglican (29.5%) than Catholic (28%). Around 74.3 per cent of the study mothers were born in Australia, and around 4.4 per cent of the original birth cohort had at least one parent of Asian background, and another 6.8 per cent had at least one parent of Aboriginal, Torres Strait Islander, Maori, or other racial background. Since the study mothers were all public patients, the offspring sample tends to over-represent those born to mothers of low socioeconomic status and thus under-represent those born of high socioeconomic status.

Due to the longitudinal nature of the MUSP study (from the prenatal period until 21-years post-delivery), as well as its focus on both mothers and their offspring, the MUSP dataset has the capacity to make a valuable contribution to the empirical literature in regard to the influence of religious background in the early stage of the life course on religious/spiritual beliefs and practices in young adulthood. This study also provides a unique opportunity to investigate the relative importance of current religiosity and religious background to young adult mental health and social behaviour.

Measures

Young adult religiosity

Traditional and non-traditional religious/spiritual beliefs

During the 21-year follow-up, the young adult respondents completed survey forms that asked them to circle one of three responses (1=No; 2=Yes; 3=Don't know) to each of the following questions: "*Do you believe in God?*" and "*Do you believe in a spiritual or higher power other than God?*" The two higher values for this item were reversed coded (1=No; 2=Don't know; 3=Yes). The item related to belief in God is conceived to capture all those whose form of religiosity remains rooted in traditional thought (Christian or non-Christian). The belief in a spiritual or higher power item is conceived to capture all those whose conception of the divine deviates from traditional religious thought and is consistent with a conception of the divine that is characteristic of the New Spirituality. The inclusion of the phrase "*other than God*" in this item serves to differentiate belief in a spiritual or higher power as an alternative belief system to traditional religious thought. This phrase distinguishes those who conceive the

divine as some sort of spiritual or higher power *and* as something *different* from God, from those who conceive God as taking the form of a spiritual or higher power.

Frequency of church attendance

Young adult respondents were asked to circle one of four responses to the question “*How often do you go to church?*” (Weekly=1; Monthly=2; Less than once a month=3; Never=4). Items were recoded so that lower values represented no church attendance and higher values represented greater frequency of church attendance (1=Never; 2=Less than once a month; 3=Monthly; 4=Weekly). These categories were collapsed into three for the purposes of analyses related to anxiety/depression, delusional ideation and externalising behaviour, due to the small numbers in the monthly category (1=Never; 2=Monthly or less; 3=Weekly).

Frequency of religious practices

At the time of the 21-year follow-up, the young adults were asked “*How often do you participate in religious activities (eg. prayer, religious rituals)?*” (1=Never; 2=Less than once a month; 3=Monthly; 4=Weekly; 5=Daily). This variable was recoded (1=Never; 2=Less than once a month; 3=Weekly to monthly; Daily=4). This variable was used solely for the purpose of comparing the extent that the churchgoing and non-churchgoing groups engage in religious practices and rituals. This variable was not included in the analyses examining anxiety/depression, delusional ideation, or antisocial behaviour, since it provides no indication as to whether or not the frequency of engagement in these activities involves one or more practices, or the nature of these practices – that is, whether they take the form of traditional religious practices like prayer, Eastern meditation, or other rituals.

Religious background

Maternal religious affiliation

At entry to the study, mothers completed survey forms that asked them to circle one of five responses to the question “*What is your current religion?*” (1=Catholic; 2=Church of England; 3=Other protestant; 4=No religion/Agnostic/Atheist, 5=Other, please specify). Responses to this question yielded 39 different categories of religious affiliation. Due to the small numbers within some of these categories, responses to this item were recoded into eight groups (1=Catholic; 2=Anglican; 3=Other Christian; 4=Pentecostal; 5=Non-Christian; 6=Not defined; 7=Refused to answer; 8=No religion). Responses were checked against classifications of religious groups contained within the *Australian Standard Classification of Religious Groups* (ABS, 1996) to ensure the accuracy of coding. Those included in the non-

Christian category within the study sample include those young adults whose mothers were Buddhist (n=11), Baha'i (n=1), Moslem (14), and Ananda Marga (n=1). The eight-category variable for religious affiliation was used solely for the analyses examining connections between maternal religious affiliation and young adult religiosity. Since the analyses examining anxiety/depression and antisocial behaviour are separated by gender, sample sizes for the *Pentecostal*, *non-Christian*, *not defined*, and *refused to answer* categories became too small for proper analysis. Therefore, the maternal religious affiliation item was recoded into five groups including Catholic (1=1), Anglican (2=2), Other Christian (3,4=3), Other groups (5,6,7=4), and No Religion (8=5) for these two sets of analyses. Since the delusional ideation analyses involve the total sample (both females and males), the Pentecostal group was able to be kept as a distinct category for this set of analyses. The non-Christian and non-defined groups category were too small to be kept as separate categories, and thus were assigned to a single category "Other", since estimates related to these groups became unstable when treated as separate groups. For these particular analyses, the eight-category religious affiliation variable was re-coded into seven categories: Catholic (1=1), Anglican (2=2), Other Christian (3=3), Pentecostal (4=4), Other (5,6=5), Refused to Answer (7=6), and No religion (8=7).

Maternal belief in God

At entry to the study, mothers were asked an identical question to that asked of the young adults during the 21-year follow-up. Recoding procedures followed those used for young adult responses to the item. Due to the small number of mothers responding "No" or "Don't know" to this item, mother responses were classified as either "No/don't know" (value of 1) or "Yes" (value of 2).

Maternal church attendance during the child's early years

Mothers were asked an identical question about frequency of church attendance at entry to the study and during the 5-year follow-up, to that asked of the young adults during the 21-year follow-up. Responses were recoded in the same way as young adult responses to these items. Maternal church attendance at 5 years was used for measuring maternal church attendance during childhood, with the exception of those mothers who failed to participate in the 5-year follow-up. For these cases (n=29), data related to frequency of church attendance at entry to the study was used instead, in order to maximise the sample size for the current study. The vast majority of mothers who attended church at 5 years also attended church at the first clinic visit (80.0%). It would be reasonable to assume therefore, that around six (20%) of these 29 cases may have stopped attending church at some stage between pregnancy and the child's

fifth birthday, resulting in approximately six cases being misclassified. However, this number accounts for less than 0.01 per cent of the sample under study and is thus unlikely to impact on the study findings. Nevertheless, sensitivity analyses were undertaken to test whether or not this approach had produced any biased estimates, and the results of these additional analyses are reported in Chapter Six.

Young adult anxiety/depression

During the 21-year follow-up, participants completed Achenbach's (1997) Young Adult Self Report (YASR), a 114-item instrument that asks respondents to choose the answer that best describes their behaviour over the past 6 months (0=Not true; 1= Somewhat or sometimes true; 2=Very true or often true). Anxiety/depression was assessed according to summed scores for 17 items included in the anxiety/depression subscale (standardized alpha coefficient = 0.91). Young adult females and males were categorised as being anxious/depressed or not anxious/depressed according to the gender cut-offs devised by Achenbach for the borderline threshold of clinical level anxiety/depression (based on normative samples). The mean score for female anxiety/depression among the MUSP sample was found to be similar to that found by Achenbach (9.4 versus 9.3), but slightly lower for male anxiety/depression (6.8 versus 7.5). The YASR subscales are reported to have good reliability and validity (Achenbach, 1997; Ferdinand & Verhulst, 1995; Visser, van der Ende, Koot, & Verhulst, 2000; Wiznitzer, Verhulst, van den Brink, Koeter, van der Ende, Giel et al., 1992). Items included in the anxiety/depression subscale are provided in Appendix C, Table C1.

Delusional ideation

During the 21-year follow-up, young adults were asked to circle one response (1=No; 2=Yes) to items contained within the 21-item Peters' Delusional Inventory (PDI) (Peters & Garety, 1996), an instrument devised to measure delusional ideation among normal populations (Peters, Joseph, Day, & Garety, 2004). The PDI has been used previously in various studies (Laroi & Van der Linden, 2005; Laroi, Van der Linden, DeFruyt, van Os, & Aleman, 2006; Lopez-Ilundain, Perez-Nievas, Otero, & Mata, 2006; Lundberg, Cantor-Graae, Kabakyenga, Rukundo, & Ostergren, 2005; Malosh, 2004; Peters, Day, McKenna et al., 1999; Verdoux, Maurice-Tison, Gay, Van Os, Salamon, & Bourgeois, 1998; Verdoux, van Os, Maurice-Tison, Gay, Salamon, & Bourgeois, 1998). PDI items were recoded (0=No; 1=Yes). A principal components analysis was conducted on the PDI items using the Varimax rotation method with Kaiser normalisation, yielding four main factors which were classified as:

disturbed ideation; suspiciousness (or paranoid ideation); paranormal/grandiose ideation; and religious ideation (see Table 3 below). This analysis was based on all the young adult study participants who had never been diagnosed by a doctor as having schizophrenia.

Table 3: Results of principal components analysis on 21 items from PDI

PDI 21 items (Variance explained)	Components			
	1 20.3%	2 8.4%	3 6.3%	4 5.6%
<i>Disturbed</i>				
Thoughts feel alien	.618			
Thoughts echoed back	.617			
Thoughts so vivid worried people can hear them	.572			
Robot or zombie without own will	.529			
Conspiracy against you	.474	.407		
World about to end	.461			
No thoughts in head at all	.456			
<i>Suspiciousness (or paranoia)</i>				
People drop hints and say things with double meaning		.624		
People not what they seem to be		.579		
Worried that partner may be unfaithful		.560		
Feel persecuted in some way		.488		
Have sinned more than the average person		.461		
Looked at oddly because of appearance		.442		
<i>Paranormal (and grandiosity)</i>				
People can communicate telepathically			.701	
Believe in witchcraft voodoo or occult			.624	
Very special or unusual			.541	
Destined to be important			.529	
<i>Religious</i>				
Especially close to God				.854
Chosen by God				.847
<i>Single items included in total PDI scores only</i>				
Magazines and TV especially for you				
Electrical devices can influence thoughts				

The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.84, and the Bartlett test of sphericity was 12,114 ($P = < 0.001$), indicating that the assumptions for performing a principal components analysis were fulfilled. The four factors explained 40.64 per cent of the variance in PDI scores. The loading cut-off chosen for inclusion of items with a given factor

was set at 0.440. Thus, the item “conspiracy against you” was excluded from factor 2 (suspiciousness and paranoid ideation) and included in factor 1 only (disturbed ideation). Standardised alpha coefficients for the four factors and the total PDI scores indicate that they have moderate reliability (Disturbed, 0.68; Suspiciousness, 0.62; Paranormal/Grandiosity), 0.59; Religious, 0.79; Total PDI, 0.80). Interestingly, items normally associated with grandiose ideation clustered with items measuring paranormal beliefs. Factors yielded from the PDI vary considerably across studies. For example, the principal components analysis of the PDI conducted by Verdoux and colleagues (1998) yielded seven factors, with the two grandiosity items (destined to be very important, and being special and unusual) loading together, but separately from items measuring paranormal beliefs (telepathic communication, and power of witchcraft, voodoo, and the occult).

Scores for items from each of these four factors were summed, yielding a total score for each factor. Scores for each of the 21 items were also summed in order to gain a total PDI score (including the two items shown in Table 3 that did not load with any of the four main factors). Subsequently, 10% cut-offs were determined from scores for each of the factors derived from this analysis, as well as for total PDI scores. Those scoring in the upper decile of delusional ideation scores were assigned a value of 2 (Disturbed = scores of 3 and above; Suspiciousness = scores of 4 and above; Paranormal/Grandiosity = scores of 3 and above; Religious = 2; Total PDI = scores of 10 and above) and the remainder a value of 1 for each of the four factors and total PDI scores. Those respondents who reported that they had doctor-diagnosed schizophrenia (n=27) were excluded from all analyses related to delusional ideation, since endorsement of PDI items by this group would be directly related to their condition.

Antisocial behaviour

Antisocial behaviour was assessed according to young adult responses to 28 items contained in Achenbach’s (1997) YASR externalising scale, measuring symptoms of intrusive, aggressive, and delinquent behaviour (standardized alpha coefficient = 0.86) (scoring methods are identical as those used for the anxiety/depression subscale). Achenbach’s gender cut-offs for the borderline threshold of clinical level externalising behaviour were used to categorise young adult females and males as being either normal or a “case”. The mean score for externalising behaviour was found to be slightly higher for the MUSP sample than that found among Achenbach’s normative samples (Females = 8.9 versus 7.5; Males = 10.1 versus 9.1). The individual items from the externalising scale are shown in Appendix C, Table C2.

Control variables

A list of potential confounders was devised following examination of the empirical literature for factors that could be related to both the explanatory variables measuring young adult religiosity and the outcomes anxiety/depression, delusional ideation, and externalising behaviour. The analytical methods used are those recommended by McNamee (2006). Regression analyses were undertaken as a preliminary step to determine whether any significant associations existed (significance level set at $P = <0.05$) between the factors identified as potential confounders and (a) the explanatory variables and (b) the outcome variables. Only those variables that were found to be significantly related to both the explanatory variable and the outcome variable were entered into multivariable logistic regression models to determine any effects that might be attributable to them. Three factors were identified as being possible mediators or confounders, including alcohol use, cannabis use, and substance use (other than cannabis), since these variables are the only factors in the list of potential confounders that might be directly involved in the causal pathway between the explanatory and outcome variables under examination (for discussion about confounders versus mediators see Christenfeld, Sloan, Carroll, & Greenland, 2004). Discussion about whether these three factors served to confound or mediate observed associations between young adult religiosity and the outcomes anxiety/depression and delusional ideation is provided in the interpretation of results in Chapter Six. The three substance use variables were not used in the externalising analyses, since alcohol and drug use are tapped by items contained in the externalising scale.

In regard to delusional ideation, for which analyses were run for the whole sample rather than separate analyses being performed for each gender, regression analyses were undertaken to determine whether there were any gender differences in the proportion of those scoring in the upper decile of scores for each of the four domains of delusional ideation, as well as total PDI scores. Only paranormal/grandiose ideation was found to be significantly higher among females than males and thus analyses related to this form of ideation were adjusted for gender.

Examples of the results from preliminary analyses undertaken to identify potential confounders are included in the appendices, with the appendix that corresponds to particular results being identified where relevant, in the results sections in Chapter Six. The measures used for potential confounder variables are outlined below.

Young adult age

Age at the time of the 21-year follow-up was calculated from date of birth and date of completion of questionnaires information that young adults provided on their questionnaires. Any missing date of birth data was obtained from medical records at the time of the young adult's delivery at the study hospital, to ensure that there were no missing values for this variable.

Young adult education

The young adults were asked at the time of the 21-year follow-up "*What is the highest level of education you have completed?*" (1=Primary school; 2=Started secondary school; 3=Completed secondary school; 4=College eg. Business, Trade, Secretarial, Teachers; 5=TAFE; 6=University; 7=Other). Items were recoded into two categories (1=Non-tertiary; 2=Tertiary), with the tertiary category including all those who had completed some form of tertiary studies at a college, TAFE or university.

Alcohol use

Young adults were asked two questions during the 21-year follow-up about the frequency and level of their alcohol consumption: "*How often do you drink alcohol?*" (1=Never drink; 2=Daily; 3=A few times a week; 4=A few times a month; 5=A few times a year; 6=Rarely); and, "*How much alcohol do you usually drink at those times?*" (1=Never Drink; 2=Less than one glass; 3=One or two glasses; 4=Three or four glasses; 5=Five or six glasses; 6=Seven or more glasses). The frequency item was recoded so that values corresponded to the lowest frequency of drinking, from never drinking (value 1) to the highest frequency of drinking ("daily" – value of 6). The values for each of these two items were multiplied together. Those young adults whose scores represented consumption of alcohol at a rate of 7 glasses of alcohol per week or less were assigned a value of one, and those whose scores represented consumption of more than 7 glasses of alcohol per week were assigned a value of two (1=Abstainer, Light to Moderate drinker; 2 = Heavy drinker).

Cannabis use

A single item contained in the 21-year follow-up questionnaire was used to measure cannabis use among the young adult sample. Respondents were asked the question "*In the last month, how often did you use cannabis, marijuana, pot, etc?*" (1=Have never used; 2=Every day; 3=Every few days; 4=Once or so; 5=Not in the last month). Responses were recoded into two categories to reflect high cannabis use (1= No, including "Never", "once or so", "not in

the last month”; and 2=Yes, including use both “every day” and “every few days”).

Substance use

A new variable was created from responses to a series of items that followed the lead-in question “*In the last 12 months how often have you used the following?*”: amphetamines like speed, uppers, or pep pills; ecstasy or other designer drugs; inhalants like glue, paint, petrol, amyl nitrate, nitrous oxide (“bulbs”); cocaine; heroin; hallucinogens like acid, LSD or magic mushrooms (1=Never used; 2= Not used in the past year; 3=A few times during the year; 4=A few times a month; 5=A few times a week). Those who selected the responses 1 or 2 for all of these items were categorised as “never used/not in the past year” (value of 1) and the remainder of the sample who responded to any one of these items with a response representing a value of 3 or greater were categorised as “used in the past year” (value of 2). Thus, “use in the past year” captures use of one or more of these substances within the 12 months prior to survey.

Maternal age

Maternal date of birth data was accessed from obstetric records, from which maternal age at the time of delivery of the study child was calculated. Values were coded into three categories (1=13 to 19 years; 2=20 to 34 years; 3=35 years and over).

Maternal education

Mothers were asked “*At what level did you complete your education?*” at their first clinic visit during pregnancy (1=Opportunity school; 2=Primary school; 3=Started secondary school; 4=Complete grade 10; 5=Completed grade 12; 6=College [eg. Business, Trade, Secretarial, Teachers’]; 7=University; 8=Other). Responses were recoded into three categories such that the lowest value represents low educational level and high values represent higher educational level (1=Incomplete high school; 2=Completed high school; 3= Completed post-high school studies).

Parental race

A variable was created that considered race of both mother and father. Responses to two items asking which group the study mother and which group her partner belonged (Australian Aborigine=1; Maori/Islander=2; Asian=3, White=4; Other [please specify]=5) were recoded into two categories, White (1=Both parents White) and non-White (2=Mother or father non-White).

Family income in adolescence

Mothers were asked the level of their total family income in survey forms administered during the 14-year follow-up, and were given a range of 7 income options ranging from between \$0 to \$10,399 and \$36,500 or more per annum. Responses were recoded into three categories (1=up to \$20,799; 2=\$20,800 to \$36,349, 3=\$36,500 and more). This variable was used as an indicator of socioeconomic status in the adolescent/pre-adulthood period. It was decided that this measure better reflected the socioeconomic circumstances of the young adults than young adult income, since 22.9 per cent of the study sample were engaged in full-time studies and 11.9 per cent were studying part-time. Full-time students would necessarily have low incomes, but may also have additional financial support from parents that is unlikely to be captured by measures of their own income. Therefore, young adult income could be a poor indicator of either available financial resources or socioeconomic status.

Parents together in young adulthood

Mothers were asked about their marital status at all seven phases of the study from pregnancy to 21 years post-delivery. At the 21-year follow-up, mothers were also asked “*Have you ever been divorced?*”. Marital status data across the various phases of the study, as well as responses to this item were used to create a variable (1=Parents not together at 21; 2=Parents together at 21) that distinguishes those mothers who were never divorced, and remained married or in a defacto relationship across all phases of the study from those who had been separated, divorced, or widowed at any stage during the period of the young adult’s life from the prenatal period to young adulthood. Since a proportion of the mothers of those young adults in the study sample did not participate in the 21-year follow-up, these mothers were assigned a value of 1. This decision was based on recognition that non-response among these mothers was largely due to factors such as the mother being deceased, mother having moved away from their offspring (interstate or overseas) and family breakdown or conflict – factors that made it more likely than not, that the vast majority of this group had parents who were no longer together at the time of the 21-year follow-up.

Quality of neighbourhood

Young adults were asked the question “*How much are the following a problem in the area where you live?*”, with the list of possible problems including: vandalism/graffiti; house burglaries; car stealing; drug abuse; violence in the streets; unemployment; noisy and/or reckless driving; alcohol abuse; and school truancy (“wagging school”) (1=Don’t know; 2=No problem; 3=Small problem; 4=Moderate problem; 5=Major problem). Scores for these items were

summed, with the upper decile of scores being categorised as “High level of problems” (value of 2) and the remainder of scores being assigned to the category “Normal” (value of 1).

Behaviour problems in adolescence

During the 14-year follow-up, the young adults (then adolescents) were administered the Youth Self Report (YSR) (Achenbach, 1991), a 119-item instrument asking participants to circle the response “*Which best describes your behaviour in the last six months?*” (Often=1; Sometimes=2; Never/rarely=3). These items were recoded in line with the methods outlined by Achenbach (0=Never/rarely, 1= Sometimes, and 2=Often) for each of the subscales anxiety/depression (16 items; Cronbach alpha=0.84), thought problems (7 items; Cronbach alpha=0.69), and externalising behaviour (30 items; Cronbach alpha=0.87). “Caseness” was determined according to the gender cut-offs devised by Achenbach (1991), based on normative samples. A variable was created categorising females and males as “Non-case” = 1 and “Case” = 2, according to these gender cut-offs. The use of Achenbach’s YSR provides the advantage of a uniform approach to symptomatology of both anxiety/depression and externalising problems, for the purposes of controlling for problems in adolescence when investigating these same outcomes in young adulthood. While Achenbach’s thought problem subscale does not correspond with the PDI, it assesses thought disturbance and three of the items in this subscale directly tap either hallucinatory experiences (“hear sounds or voices that other people don’t hear” and “see things that other people don’t think are there”) or disturbed ideation (“have thoughts are people think are strange”). For individual items from the anxiety/depression subscale, thought subscale, and externalising scale see Appendix D.

Missing values

Since the study sample has been restricted to those participants for whom complete data was available for the main explanatory and outcome variables, as well as anxiety/depression, thought problems and externalising behaviour in adolescence, missing data was restricted to a number of variables identified as potential confounders. Decisions about missing values have already been identified for the variable “parents together in adulthood”, but missing data for all other potential confounder variables were assigned mean values (young adult education, alcohol consumption, cannabis use, maternal education, race, and family income). Missing data was found to be minimal for all variables, with the exception of race and family income in adolescence, and even in these cases missing data represents a very small proportion of the total sample (0.02%). Nevertheless, sensitivity analyses were conducted to ensure that missing data has not biased any estimates, with the results of these analyses being reported in each of

the main sections of the results chapter (Chapter Six).

Statistical analyses

Young adult religiosity and religious background

Crosstabulations were used and chi squares tests performed for analyses related to the prevalence of young adult R/S beliefs, church attendance, and religious practices. For analyses examining relationships between young adult religiosity and religious background, crude odds ratios were yielded from multinomial logistic regression models. Adjustments for possible confounding were made where significant associations were found between the explanatory and outcome variables. Potential confounders included in these multivariable models were those indicated by the preliminary regression analyses as being significantly associated with both the explanatory and outcome variables being examined (see Appendix E). The eight-category religious affiliation variable was used for this set of analyses.

Young adult anxiety/depression, delusional ideation and antisocial behaviour

The same analytic approach was taken for all analyses related to young adult anxiety/depression, delusional ideation, and externalising behaviour. Univariate logistic regression models were used to determine associations between all the explanatory and outcome variables under examination. If positive or negative associations at a statistical significance level of $P = < 0.05$ were found, multivariable logistic regressions were performed including those variables identified from the preliminary linear regression analyses as being potential confounders (see examples in Appendix F, G, and H). These analyses were repeated with the exclusion of all those young adults who had borderline problems in adolescence to determine the extent that pre-existing anxiety/depression, thought problems, and externalising behaviour in adolescence might confound any significant associations observed for young adult anxiety/depression, delusional ideation, and externalising behaviour respectively. Finally, additional multivariable logistic regression models were performed to test the independent contribution of traditional and non-traditional R/S beliefs, frequency of church attendance, and maternal belief in God, frequency of church attendance, and religious affiliation to the outcomes of interest, in instances where two or more of these variables were found to be significantly associated with the same outcome. Significance levels were set at $P = < 0.05$ for all analyses. The anxiety/depression and externalising analyses were conducted separately for females and males, while the delusional ideation analyses were undertaken on the young adult sample as a whole.

The five-category religious affiliation variable was used for the analyses related to

anxiety/depression and externalising behaviour (separated by gender), and the seven-category religious affiliation variable was used for the delusional ideation analyses (based on the whole sample).

All analyses were performed using SPSS Version 13.0 for Windows.

Attrition

Loss to follow-up of the young adult sample at 21 years post-delivery was found to differ according to socio-demographics, religious characteristics and the mental health of their mothers when they were enrolled in the study, at their first obstetric visit at the study hospital. Table 4 below identifies the percentages of the original birth cohort ($N = 7,223$) lost to follow-up at the time of 21-year follow-up according to maternal socio-demographics and mental health. Attrition rates were yielded from cross-tabulations, with Pearson's chi-square tests being performed to determine the statistical significance of differences observed between groups for each factor listed in the table.

Young adults disproportionately lost to follow-up are those offspring whose mothers were of younger age, had low income, had not completed high school, were unmarried, had a non-white racial background, or who were anxious, depressed, stressed or had a relationship with their partner characterised by conflict at entry to the study. Attrition rates for the previous phase of the study are also identified on the right-hand side of Table 4 and show that the same characteristics that predicted loss to follow-up during the most recent wave of data collection also predicted loss to follow-up at 14 years post-delivery. The only exception to this pattern is in regard to stress, which was not significantly associated with attrition at 14 years, but is strongly associated with attrition at 21 years post-delivery.

Table 4: Maternal characteristics associated with loss to follow-up of the study children at 21 and 14 years post-delivery

Maternal factors at entry to the study (prenatal period)	n	Attrition rates for the MUSP sample of young adults			
		Loss to follow-up at 21-year follow-up		Loss to follow-up at 14 year-follow-up	
		% of group lost	P value	% of group lost	P value
Age					
13-19 yrs	1181	58.3		39.0	
20-34 yrs	5723	45.7		26.3	
35 yrs +	319	44.8	< 0.001	26.0	< 0.001
High school education					
Incomplete	1305	54.1		33.6	
Complete	4609	47.9		28.0	
Post-high	1256	40.2	< 0.001	24.4	< 0.001
Marital status					
Single	736	60.6		40.5	
Living together	844	60.3		42.5	
Married	5386	43.3		23.8	
Separated, divorced or widowed	194	62.9	< 0.001	46.4	< 0.001
Family income					
Less than \$10,400	2308	54.1		36.0	
\$10,400 and over	4441	43.3	< 0.001	23.1	< 0.001
Race					
White	6259	45.8		26.7	
Asian	307	55.7		38.1	
Other	444	68.0	< 0.001	46.6	< 0.001
Depression^a					
Non-depressed	6673	46.6		27.6	
Depressed	412	61.9	< 0.001	40.0	< 0.001
Anxiety^a					
Non-anxious	6163	45.9		26.9	
Anxious	926	58.9	< 0.001	37.1	< 0.001
Stress^b					
Non-stressed	6475	46.9		28.3	
Stressed	611	53.7	0.001	28.0	0.454
Dyadic adjustment^c					
Good adjustment	6615	46.3		27.0	
Conflict	202	55.0	0.009	42.1	< 0.001

a: Depression and anxiety were assessed from scores of 4 or higher on a seven-item depression scale and a seven-item anxiety scale from the Delusion Symptom States Inventory (Bedford & Foulds, 1977).

b: Stress was assessed from scores of 4 or higher on 4-item scale measuring mental and emotional stress, and nervous and physical exhaustion.

c: Dyadic adjustment was assessed from an eight-item shortened version of the Spanier Dyadic Adjustment Scale (Spanier, 1976).

The same methods of analysis were used to determine attrition rates among the study children according to maternal religiosity. From Table 5, it can be seen that loss to follow-up

at 21-years post-delivery was lowest for offspring of mothers who believed in God and those who attended church on a weekly basis at entry to the study. In regard to maternal religious affiliation, offspring attrition rates at 21 years post-delivery are fairly similar across the four largest religious groups: Catholics (46.6%), Anglicans (48.6%), other Christian (45.0%), and no religion (48.1%). The two groups that are under-represented in the current sample are offspring of mothers who reported being affiliated with a non-Christian religion (attrition rate 71.6%) and to a lesser extent, those who refused to answer the religion item at entry to the study (attrition rate 57.5%). Two groups that are over-represented in the study sample when compared to others, include offspring of mothers affiliated with one of the Pentecostal churches (attrition rate 40.0%) and those who did not define which religion they were affiliated with (attrition rate 41.9%). Even though the differences in attrition rates across the eight groups are highly significant, it needs to be noted that the four groups with the highest attrition rates (non-defined religion, non-Christians, and refused to answer groups) represent in total just nine per cent of the entire cohort at commencement to the study. The patterns of offspring attrition at 21-years post-delivery are similar without exception to those observed for the 14-year follow-up.

Table 5: Maternal religiosity and loss to follow-up of the study children at 21 and 14 years post-delivery

		Attrition rates for the MUSP young adult sample			
Maternal religiosity at entry to the study (prenatal period)	n	Loss to follow-up at 21-year follow-up		Loss to follow-up at 14 year-follow-up	
		% of group lost	P value	% of group lost	P value
<i>Belief in God</i>					
No	343	55.4		35.0	
Unsure	1219	51.0		31.5	
Yes	3742	46.4	< 0.001	27.2	< 0.001
<i>Church attendance</i>					
Never	4357	49.6		30.3	
Monthly or less	301	46.5		26.9	
Weekly	1053	41.3	< 0.001	22.2	< 0.001
<i>Religious affiliation</i>					
Catholic	2020	46.6		26.7	
Anglican	2130	48.6		29.2	
Other Christian	1429	45.0		24.8	
Pentecostal	155	40.0		21.3	
Non-Christian	95	71.6		55.8	
Not defined	86	41.9		29.1	
Refused to answer	181	57.5		32.1	
No religion	315	48.1	< 0.001	32.5	< 0.001

Since maternal religiosity is a focus of investigation for its connection to young adult religiosity, and to young adult anxiety/depression, delusional ideation, and externalising behaviour, attrition rates related to maternal religiosity require due consideration. However, as already noted, attrition rates are similar across the four largest religious affiliation groups under examination, and offspring of mothers who reported being affiliated with a Pentecostal church have the lowest attrition rate of all groups. Estimates for the non-Christian group are likely to be biased since this group has the highest attrition rate, but the only analyses that examine this group as a distinct category are those that investigate links between religious affiliation and young adult religiosity. Thus, no estimates have been computed for this group in relation to mental health or social behaviour. Differences in attrition rates between the no religion group (48.1%), the Church of England (48.6%) and Catholicism (46.6%) are small, and it is these three groups that form the main focus of attention in the analyses examining young adult anxiety/depression and externalising behaviour.

The reference groups for the analyses related to maternal belief in God and church attendance are the no belief and no church attendance groups. While there could be concerns that these same groups have been disproportionately lost to follow-up, it is also the case that social and economic disadvantage predicts attrition. Since socioeconomic disadvantage is linked to poor mental health and behaviour, those retained in the study are likely to have less mental health impairment and aberrant behaviour than could be expected if there had been less attrition among the socially disadvantaged. A number of the potential confounders identified and tested for their connection to the main explanatory and outcome variables tap social disadvantage (maternal age and education in the prenatal period, income in adolescence, race, parental divorce, separation and death, and quality of neighbourhood). Thus, an assessment can be made of the extent that higher attrition of the socially disadvantaged might bias the results from any change of effects that take place after adjustment for these factors. Nevertheless, this study cannot eliminate effects from attrition bias altogether.

It is also worth noting that Ware and colleagues (2006) investigated MUSP attrition rates over time and found that only 4.0 per cent of the birth cohort had never responded post-baseline up to the time of the 14-year follow-up, and that 61.9 per cent had responded at each phase, 9.9 per cent had participated in one or more follow-ups after the first two phases (“returners”), and 24.2 per cent had only participated in either the 6-month or 5-year follow-ups or both (“leavers”). The latter group includes those who were unable to be located, as well as non-responders, and therefore does not represent complete withdrawal from the study.

Ware et al. (2006) found that the base-line characteristics of these “leavers” were similar to those of “returners” to the study.

Chapter Six: Results

This chapter outlines the findings from the current study in four separate sections. The first section provides an overview of young adult religiosity, identifying the prevalence of traditional and non-traditional R/S beliefs, frequency of church attendance, and frequency of engagement in religious practices or rituals among the study sample. Relationships found between young adult religiosity and religious background are also reported. These findings provide context to the results reported in Sections Two, Three and Four by providing an indication of the extent that religious background is linked to R/S beliefs and church attendance in young adulthood. Section Two outlines the results of analyses investigating associations between traditional and non-traditional beliefs, church attendance, and religious background, and young adult anxiety/depression. Sections Three and Four identify associations found between these same influences and young adult delusional ideation and externalising behaviour (intrusiveness, aggression and delinquency) respectively.

Section One: Overview of young adult religiosity and religious background

The following results reflect the findings based on the total sample of young adults who participated in the 21-year follow-up (N=3,777). Due to differences in non-response to individual items, there are slight variations in the total sample size reported for each of the tables in this section. Numbers of missing are reported at the bottom of each table.

Young adult religiosity

Traditional and non-traditional beliefs

The pattern of traditional R/S beliefs observed among the young adult sample under study is shown in Table 6. Almost half of the sample maintains some ties with traditional religion as indicated by endorsement of a belief in God (47.9%) while around a quarter (24.3%) reject this belief. The prevalence of a belief in God is somewhat higher for females than it is for males (49.5% versus 46.2%), and more males reject this belief than do females (27.8% versus 21.1%). More females than males are unsure if they believe in God (29.4% versus 26.0%). These gender differences are highly significant.

Table 6: Belief in God among the study sample

Response	Belief in God in young adulthood		
	Total sample	Females	Males
	N = 3740	n = 1979	n = 1761
	%	%	%
No	24.3	21.1	27.8
Do not know	27.8	29.4	26.0
Yes	47.9	49.5	46.2
Total	100	100	100

Gender differences: $X^2 = 22.79$; $df = 2$; $P = < 0.001$

Missing n = 37

Table 7 below shows that non-traditional R/S beliefs are not as common as traditional R/S beliefs among the young adult sample, with around one quarter (24.5%) reporting that they believe in a spiritual or higher power other than God and a similar proportion stating that they are unsure whether they endorse this belief (25.3%). Around half of the sample report that they reject this belief, and males are significantly more likely to reject non-traditional R/S beliefs than females (57% versus 44.2%). Around one-fifth of males agree that they believe in a spiritual or higher power other than God, while nearly one-third of females do likewise.

Table 7: Belief in a spiritual or higher power other than God among the study sample

Response	Belief in a spiritual or higher power other than God in young adulthood		
	Total sample	Females	Males
	N = 3739	n = 1977	n = 1762
	%	%	%
No	50.2	44.2	57.0
Do not know	25.3	26.8	23.5
Yes	24.5	29.0	19.5
Total	100	100	100

Gender differences: $X^2 = 68.98$; $df = 2$; $P = < 0.001$

Missing n = 38

In order to identify the pattern of R/S beliefs that emerge when traditional and non-traditional are considered simultaneously, Table 8 shows that 15 per cent of the young adults reject both beliefs, 15.2 per cent are unsure about each of these beliefs, and 9.4 per cent endorse both beliefs. A total of 37.6 per cent of the sample endorses one belief but rejects the other (30.9% believe in God only and reject a spiritual or higher power, and 6.7% do the opposite). The remainder of the sample's beliefs involve some other configuration of being unsure of at least one of these beliefs (22.8% in total).

Table 8: Pattern of traditional and non-traditional beliefs among the study sample

Traditional and non-traditional religious/spiritual beliefs in young adulthood		
Belief in God	Belief in a spiritual or higher power	N=3735
		%
No	No	15.0
No	Unsure	2.5
No	Yes	6.7
Unsure	No	4.3
Unsure	Unsure	15.2
Unsure	Yes	8.4
Yes	No	30.9
Yes	Unsure	7.6
Yes	Yes	9.4
		100

Belief differences: $\chi^2 = 872.37$; $df = 4$; $P = < 0.001$

Missing n = 42

Church attendance

In regard to participation in church services, it can be seen from Table 9 that around three-quarters (76.5%) of the young adults under study never attend church services, and less than one tenth (8.0%) attend church on a weekly basis. In total, 23.5 per cent of the sample report that they attend church (less than monthly: 13.3%; monthly: 2.2%; weekly: 8.0%), similar to national estimates in 2001 that 23 per cent of Australians aged 18 years and over, attended church in the three months prior to survey (ABS, 2004a). No significant gender differences were found for frequency of church attendance among the young adult sample.

Table 9: Young adult church attendance according to gender

Frequency	Church attendance in young adulthood		
	Total sample (N = 3757) %	Females (n = 1982) %	Males (n = 1775) %
Never	76.5	76.5	76.4
Less than once a month	13.3	13.1	13.6
Monthly	2.2	1.8	2.6
Weekly	8.0	8.6	7.3
Total	100	100	100

Gender differences $\chi^2 = 5.55$; $df = 3$; $P = 0.14$

Missing n = 20

Religious/spiritual beliefs and church attendance

The extent that non-traditional R/S beliefs differ according to whether or not young adults believe in God or attend church services is highlighted in Table 10. A significantly higher proportion of young adults who believe in God and attend church services reject belief in a spiritual or higher power other than God (77%) than those who believe in God and do not participate in church services (54.8%). Similarly, among believers in God, those who report never attending church are significantly more likely to be unsure whether they believe in a spiritual or higher power (20.6%) than those who attend church (9.8%), and to endorse non-traditional beliefs (24.6% versus 13.2%).

Differences between church attenders and non-attenders are far less pronounced (and are not statistically significant) when considering the group who are unsure whether they believe in God, with there being only a 2 per cent difference approximately between church attenders and non-attenders in regard to rejecting non-traditional beliefs (17.1% versus 15.3%), being unsure (51.2% versus 54.8%), or endorsing these beliefs (31.7% versus 30.0%).

The observed differences between church attenders and non-attenders who reject God but believe in a spiritual or higher power are weakly significant. Church attenders who reject God are slightly more likely to endorse non-traditional R/S beliefs (31.3%) than non-churchgoers who reject God (27.5%).

Table 10: Young adult traditional and non-traditional beliefs according to church attendance

Belief in spiritual or higher power	n	Belief in God					
		No		Unsure		Yes	
		Attends church No (n=890) %	Yes (n=16) %	Attends church No (n=957) %	Yes (n=82) %	Attends church No (n=1008) %	Yes (n=782) %
No	1875	62.1	50.0	15.3	17.1	54.8	77.0
Unsure	946	10.3	18.8	54.8	51.2	20.6	9.8
Yes	914	27.5	31.3	30.0	31.7	24.6	13.2
Total	3735	100	100	100	100	100	100

No belief in God: $X^2 = 1.515$; $df = 2$; $P = 0.47$
 Unsure of belief in God: $X^2 = 0.409$; $df = 2$; $P = 0.81$
 Believes in God: $X^2 = 95.265$; $df = 2$; $P = < 0.001$
 Missing n = 42

Engagement in religious activities such as prayer and other rituals

Results of crosstabulations performed to determine the extent of engagement in religious activities such as prayer and religious rituals among those who never attend church

compared to those who do are shown in Table 11. A much higher proportion of churchgoers engage in these types of activities than those who never attend church services. A total of 17.6 per cent of those who never attend church services report that they engage in prayer, rituals, or other religious activities on either a daily, weekly, monthly, or less frequent basis, in contrast to the high percentage of those who attend church and report engaging in these kinds of activities (92% in total). Nearly one third of churchgoers (29.9%), but only a small percentage of non-churchgoers (2.1%), report that they engage in some form of religious activity on a daily basis.

Table 11: Young adult prayer, religious rituals or other religious activities according to church attendance

Frequency of religious activities	Young adult church attendance		
	Total sample (N = 3751)	No church (n = 2867)	Attends church (n = 884)
	%	%	%
Never	64.8	82.4	8.0
Less than once a month	15.8	10.0	34.3
Monthly	4.1	2.2	10.5
Weekly	6.6	3.3	17.2
Daily	8.7	2.1	29.9
Total	100	100	100

Differences in religious practices $\chi^2 = 1741.16$; $df = 4$; $P = < 0.001$

Missing n = 26

Summary of findings on religiosity among young adults

Overall, the results show that the majority of young adults maintain some sort of R/S belief. Given that less than one quarter of the total sample ever attend church, it is clear that religiosity among the sample is more privatised than institutionalised in nature. It is also clear that a traditional religious belief in God is more common than non-traditional beliefs among those who do not participate in religious services. A greater proportion of non-churchgoers than churchgoers also report that they endorse both traditional and non-traditional R/S beliefs. Not surprisingly, prayer, religious rituals, or other religious activities are far more common among churchgoers than those who never attend religious services. However, it remains that nearly one fifth of those who never attend church also engage in these sorts of activities.

Religious background and young adult religiosity

The following findings show the extent that endorsement of R/S beliefs and church attendance in young adulthood is related to the religious environment in which the child is raised in their early years, assessed by maternal belief in God, frequency of maternal church attendance, and maternal religious affiliation. Crude and adjusted odds ratios and confidence intervals yielded from multinomial logistic regression analyses are reported, with values being shown at the level of two decimal points. In instances where the yielded odds ratios are 10 or greater, the odds ratios and upper confidence intervals are reported at the level of one decimal point only.

Potential confounders identified for associations between the dimensions of religious background and young adult religiosity are provided in Appendix E (Tables E1, E2 and E3).

Maternal belief in God

The results of the multinomial logistic regression analysis performed to determine the extent that maternal belief in God is connected to this same belief among their offspring in young adulthood is shown in Table 12. Young adults who believe in God are four times more likely than those who reject this belief to be offspring of a mother who believed in God at entry to the study. Offspring who are unsure if they believe in God are around one and a half times more likely than those who reject God to be offspring of a mother who believed in God during the prenatal period. There is little attenuation of effect after adjustment for potential confounders, young adult education, cannabis use, race, and parents remaining together until adulthood (Model 2). It is also noteworthy that the number of young adults who reported believing in God at the time of the 21-year follow-up between 2001 and 2004, represents 47.9 per cent of the young adult sample, whereas 80 per cent ($n=2,965$) of the young adults' mothers ($N = 3705$) believed in God approximately two decades earlier.

Table 12: Maternal belief in God and traditional beliefs in young adulthood

Young adult belief in God									
Maternal belief in God	n	No (n=901)		Unsure (n=1028)			Yes (n=1776)		
				Model 1		Model 2	Model 1		Model 2
		%	OR	%	Unadj OR (95%CI)	Adj OR (95%CI)	%	Unadj OR (95%CI)	Adj OR (95%CI)
No /unsure	740	39.6	1	34.6	1	1	25.8	1	1
Yes	2965	20.5	1	26.0	1.45*** (1.19,1.77)	1.43*** (1.17,1.74)	53.5	4.00*** (3.26,4.91)	3.88*** (3.15,4.76)
Total	3705	24.3		27.7			47.9		

Reference groups: no belief

*** $P < 0.001$

Model 2: Adjusted for young adult education, cannabis use, maternal age, race, and parents remaining together until young adulthood

Missing n = 72

A completely different pattern emerges when considering the link between maternal belief in God and non-traditional R/S beliefs in young adulthood. Table 13 shows that young adults who believe in a spiritual or higher power are significantly less likely than those who reject this belief to be offspring of mothers who believed in God at entry to the study. The significance of this association changes from strong to moderate after adjustment for potential confounders, cannabis use, and parents remaining together in young adulthood (Model 2). However, young adults who are unsure whether or not they believe in a spiritual or higher power other than God are just as likely as those who reject this belief to be offspring of mothers who believed in God at entry to the study.

Table 13: Maternal belief in God and non-traditional beliefs in young adulthood

Young adult belief in a spiritual or power other than God									
Maternal belief in God		No (n=1860)		Unsure (n=937)			Yes (n=907)		
		%	OR	%	Model 1 Unadj OR (95%CI)	Model 2 Adj OR (95%CI)	%	Model 1 Unadj OR (95%CI)	Model 2 Adj OR (95%CI)
No /unsure	742	44.7	1	25.9	1	1	29.4	1	1
Yes	2962	51.6	1	25.2	0.84 (0.69,1.03)	0.85 (0.69,1.03)	23.3	0.69*** (0.57,0.83)	0.71** (0.58,0.86)
Total	3704	50.2		25.3			24.5		

Reference groups: no belief

** $P < 0.01$ *** $P < 0.001$

Model 2: Adjusted for cannabis use, and parents remaining together in young adulthood

Missing n = 73

Young adult participation in religious services is strongly related to maternal belief in God, as shown in Table 14. Those who attend church on an irregular basis are four times more likely than non-attenders to be offspring of a mother who believed in God at entry to the study, and those who attend church on a weekly basis are over six times more likely than non-attenders to be offspring of mothers who believed in God during the prenatal period. There is slight reduction in the odds ratios after adjustment for potential confounders (Model 2). It is needs to borne in mind however, that the overall church attendance rate among the young adult sample is 23.5 per cent and that these odds ratios are based on young adults who never attend church and mothers who didn't believe in God at entry to the study (or were unsure). It thus worth noting than that 72.5 per cent of all offspring of mothers who believed in God, never attend church.

Table 14: Maternal belief in God and church attendance in young adulthood

Young adult church attendance									
Maternal belief in God		Never (n=2848)		Monthly or less (n=576)			Weekly (n=298)		
		%	OR	%	Model 1	Model 2	%	Model 1	Model 2 Adj
					Unadj OR (95%CI)	Adj OR (95%CI)		Unadj OR (95%CI)	OR (95%CI)
No /unsure	747	92.5	1	5.6	1	1	1.9	1	1
Yes	2975	72.5	1	17.9	4.07*** (2.94,5.64)	3.85*** (2.78,5.34)	9.5	6.50*** (3.77,11.2)	5.98*** (3.46,10.3)
Total	3722	76.5		15.5			8.0		

Reference groups: no church attendance and maternal no/unsure of believing in God

*** $P < 0.001$

Model 2: Adjusted for young adult education and cannabis use, maternal age and education, race, and parents remaining together until adulthood

Missing n = 55

Maternal church attendance

In regard to maternal church attendance measured at 5 years after the birth of the study child, results from the multinomial logistic regression analysis performed to determine its link to traditional R/S beliefs in young adulthood are shown below in Table 15. Those young adults who are unsure whether or not they believe in God are somewhat more likely than their non-believing counterparts to have a mother who attended church infrequently during their childhood, and twice as likely to have had a mother who attended church on a weekly basis at this early stage of their lives. A stronger effect is evident for young adults who believe in God, such that they are over two and a half times more likely than young adults who reject God to have a mother who attended church infrequently, and around 11 times more likely than the reference group to have a mother who attended church on a weekly basis. Adjustment for a range of potential confounders makes little difference to these associations (Model 2).

A sensitivity analysis showed that the exclusion of young adults for whom maternal church attendance was measured at entry to the study (instead of five years post-delivery) made little difference to the associations reported in Table 15.

Table 15: Maternal church attendance during childhood and traditional beliefs in young adulthood

Maternal church attendance		Young adult belief in God							
		No (n=906)		Unsure (n=1040)			Yes (n=1790)		
		%	OR	%	Model 1	Model 2	%	Model 1	Model 2
					Unadj OR (95%CI)	Adj OR (95%CI)		Unadj OR (95%CI)	Adj OR (95%CI)
Never	2199	31.8	1	33.0	1	1	35.2	1	1
Monthly or less	849	19.1	1	25.7	1.30* (1.03,1.63)	1.28* (1.02,1.62)	55.2	2.62*** (2.13,3.22)	2.56*** (2.08, 3.15)
Weekly	688	6.4	1	14.0	2.10*** (1.45,3.05)	2.04*** (1.40,2.97)	79.7	11.3*** (8.16,15.6)	10.5*** (7.60,14.6)
Total	3736	24.3		27.8			47.9		

Reference groups: no belief and maternal church attendance never

* $P = 0.05$ *** $P = < 0.001$

Model 2: Adjusted for young adult education, alcohol and cannabis use, maternal age, race, and parents remaining together until young adulthood

Missing n = 41

Table 16 indicates that both young adults who are unsure if they believe, or do believe, in a spiritual or higher power other than God are much less likely than those who reject these R/S beliefs to be offspring of mothers who were regular church attenders in their childhood years than non-attenders. However, maternal church attendance on an infrequent basis would seem to have little influence on whether or not young adults reject, endorse or are uncertain about believing in a spiritual or higher power other than God. Adjustment for potential confounders has little effect on these associations (Model 2).

A sensitivity analysis revealed that the insignificant negative association between young adult belief in a spiritual or higher power and maternal church attendance at a frequency of monthly or less, became weakly significant (Adjusted OR = 0.81; 95%CI: 0.65,1.00) once the analysis was restricted to those young adults for whom maternal church attendance was measured during the prenatal period. No change of effect was observed for weekly maternal church attendance however. Thus, infrequent maternal church attendance measured at 5 years post-delivery appears to be weakly associated with a reduced likelihood of endorsement of non-traditional R/S beliefs in young adulthood.

Table 16: Maternal church attendance during childhood and non-traditional beliefs in young adulthood

Young adult belief in a spiritual or higher power other than God									
Maternal church attendance		No (n=1875)		Unsure (n=944)			Yes (n=916)		
		%	OR	%	Model 1	Model 2	%	Model 1	Model 2
					Unadj OR (95%CI)	Adj OR (95%CI)		Unadj OR (95%CI)	Adj OR (95%CI)
Never	2197	45.0	1	28.6	1	1	26.4	1	1
Monthly or less	849	49.4	1	26.6	0.85 (0.70,1.03)	0.85 (0.70,1.03)	24.0	0.83 (0.68,1.01)	0.85 (0.69,1.03)
Weekly	689	67.8	1	13.1	0.30*** (0.24,0.39)	0.30*** (0.24,0.39)	19.2	0.48*** (0.39,0.60)	0.51*** (0.41,0.63)
Total	3735	50.2		25.3			24.5		

Reference groups: no belief and maternal church attendance never

*** $P = < 0.001$

Model 2: Adjusted for young adult cannabis use and parents remaining together until adulthood

Missing n = 42

The findings from the multinomial logistic regression analysis considering maternal church attendance at 5 years post-delivery and church attendance and non-attendance in young adulthood are provided in Table 17. Young adults who attend church on a weekly basis are nearly 40 times more likely than young adults who never attend church to have a mother who attended church at this same level of frequency when the young adult was a child. Young adults within this group are also more than twice as likely as their non-attending counterparts to have a mother who attended church on a monthly basis or less during their childhood. Even those young adults who attend church irregularly are nearly 10 times more likely than their non-attending counterparts to have a mother who attended church on a weekly basis, and nearly four times more likely than non-attenders to have a mother who attended church infrequently. Adjustment for potential confounders made little difference to these associations, except that the odds ratios for young adult weekly church attendance from weekly maternal church attendance reduced slightly (Adjusted OR = 37.0;95%CI: 25.8, 53.1).

A sensitivity analysis revealed that the likelihood of weekly church attendance in young adulthood according to mothers attending church at this same frequency is underestimated if analysis is not restricted to offspring for whom this data was gathered at 5 years post-delivery. The odds ratios for young adult weekly church attendance for offspring of mothers who attended church on a weekly basis increased by 10 (Model 2: Adjusted OR=45.9; 95%CI:

30.4,69.4) once young adults for whom church attendance was measured in the prenatal period were excluded. Little difference was observed however for those young adults who attend church infrequently (monthly or less) and whose mothers attended church on a weekly basis (Model 2: Adjusted OR = 2.63; 95%CI: 1.56,4.46).

Table 17: Maternal church attendance during childhood and young adult church attendance

Maternal church attendance		Young adult frequency of church attendance							
		Never (n=2871)		Monthly or less (n=581)			Weekly (n=301)		
				Model 1		Model 2	Model 1		Model 2
		%	OR	%	Unadj OR (95%CI)	Adj OR (95%CI)	%	Unadj OR (95%CI)	Adj OR (95%CI)
Never	2208	90.4	1	7.6	1	1	2.0	1	1
Monthly or less	852	72.4	1	23.8	3.93*** (3.14,4.92)	3.80*** (3.03,4.76)	3.8	2.35*** (1.48,3.74)	2.20** (1.38,3.53)
Weekly	693	37.1	1	30.4	9.82*** (7.71,12.5)	9.26*** (7.25,11.8)	35.2	39.7*** (28.0,56.3)	37.0*** (25.8,53.1)
Total	3753	76.5		15.5			8.0		

Reference groups: young adult and maternal church attendance never

P = < 0.01 *P = < 0.001

Model 2: Adjusted for young adult cannabis and alcohol use and education, maternal age and education, race, and parents remaining together until adulthood

Missing n = 24

Maternal religious affiliation

The findings reported in this section identify the relationships between maternal religious affiliation on young adult traditional and non-traditional R/S beliefs and churchgoing behaviour using the eight-category religious affiliation variable. The small numbers in the non-Christian and ill-defined religious affiliation categories led to some of the odds ratios yielded from the multinomial logistic regression analyses being statistically insignificant (with one of the cells having a count of less than five). Square parentheses are used in tables to identify these instances.

Young adult belief in God was found to vary considerably according to maternal religious affiliation at entry to the study. Table 18 shows that young adults who endorse traditional R/S beliefs are nearly 14 times more likely than non-believers to be offspring of women affiliated with one of the Pentecostal churches at entry to the study, around three times more likely be offspring of women who were affiliated with a non-Christian religion or

Catholicism, and 1.6 times more likely to be offspring of women affiliated with the Church of England than they are to be offspring of mothers who were unaffiliated with a religion at entry to the study. Young adults who believe in God are nearly four times more likely than non-believers to be offspring of mothers who refused to answer the religious affiliation item at entry to the study. Most notable is that only 6.5 per cent of offspring of Pentecostal mothers reject a belief in God in adulthood.

A different pattern emerges for those young adults who are uncertain if they believe in God. Comparing this group with their non-believing counterparts, only offspring of mothers affiliated with the Church of England, Catholicism, and Other Christian religions are significantly more likely to be uncertain about God. Adjustment for potential confounders (other substance use and parents remaining together until adulthood – not shown in Table 18) made little difference for any of the religious affiliation groups (for example, Pentecostal – Adjusted OR = 13.9; 95%CI: 5.89,32.8).

Table 18: Maternal religious affiliation at entry to the study and traditional beliefs in young adulthood

Maternal religious affiliation	n	Young adult belief in God					
		No (n=907)		Unsure (n=1040)		Yes (n=1793)	
		%	Unadj OR	%	Unadj OR (95%CI)	%	Unadj OR (95%CI)
No religion	510	36.5	1	30.4	1	33.1	1
Catholic	1062	19.6	1	25.8	1.58* (1.20,2.09)	54.6	3.07*** (2.36,3.99)
Anglican	1083	27.3	1	32.9	1.44** (1.11,1.88)	39.8	1.60*** (1.24,2.07)
Other Christian	783	21.6	1	24.5	1.36* (1.01,1.83)	53.9	2.75*** (2.09,3.61)
Pentecostal	92	6.5	1	10.9	2.00 (0.71,5.63)	82.6	13.9*** (5.92,32.8)
Non-Christian	27	18.5	1	25.9	1.68 (0.52,5.40)	55.6	3.30* (1.17,9.28)
Not defined	50	28.0	1	28.0	1.20 (0.55,2.59)	44.0	1.73 (0.86,3.49)
Refused to answer	133	17.3	1	24.1	1.67 (0.94,2.97)	58.6	3.73*** (2.24,6.21)
Total	3740	24.3		27.8		47.9	

Reference groups: no belief and no religious affiliation

* $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

Missing n=37

Considering endorsement of non-traditional R/S in young adult and maternal religious background, Table 19 indicates that young adults who believe in a spiritual or higher power other than God are significantly less likely than non-believers to be offspring of mothers affiliated with Catholicism, other Christian religions, or Pentecostal churches. Of most interest is that having an Anglican mother appears to have no bearing on whether offspring reject or endorse non-traditional R/S beliefs once they reach adulthood. It is also noteworthy that those who are unsure whether or not they believe in a spiritual power, do not differ from those who reject these beliefs in regard to their mothers' religious affiliation, with the exception of those raised by a mother affiliated with one of the Pentecostal churches or a Christian religion other than Catholicism or Church of England. Uncertainty about belief in a spiritual or higher power other than God is less likely than non-belief among offspring of mothers within these two groups.

Adjustment for other substance use and parents remaining together until adulthood (the only potential confounders identified for the association between non-traditional beliefs and maternal religious affiliation) produced similar results for those who are uncertain of these beliefs to unadjusted odds ratios and confidence intervals reported in Table 19. Similarly, adjustment for potential confounders made little difference to the odds ratios for belief in a spiritual or higher power other than God, with the exception of two of the religious affiliation groups. The weak negative association observed for those with a Catholic background, just failed to reach statistical significance (Adjusted OR = 0.77; 95%CI: 0.60,1.00) and the strong negative association observed for Other Christian offspring became moderately significant (Adjusted OR = 0.62; 95%CI: 0.47,0.82).

Table 19: Maternal religious affiliation at entry to the study and non-traditional beliefs in young adulthood

Young adult belief in a spiritual or higher power other than God							
Maternal religious affiliation	n	No (n=1877)		Unsure (n=946)		Yes (n=916)	
		%	OR	%	Unadj OR (95%CI)	%	Unadj OR (95%CI)
No religion	511	46.0	1	25.0	1	29.0	1
Catholic	1063	50.5	1	25.5	0.93 (0.71,1.20)	24.0	0.75* (0.58,0.97)
Anglican	1083	45.4	1	28.0	1.13 (0.87,1.46)	26.6	0.93 (0.72,1.20)
Other Christian	780	56.3	1	22.7	0.74* (0.56,0.98)	21.0	0.59*** (0.45,0.78)
Pentecostal	93	69.9	1	11.8	0.31** (0.16,0.61)	18.3	0.41** (0.23,0.74)
Non-Christian	26	61.5	1	15.4	[0.46] (0.15,1.40)	23.1	0.59 (0.23,1.56)
Not defined	50	50.0	1	38.0	1.39 (0.74,2.63)	12.0	0.38* (0.15,0.95)
Refused to answer	133	51.1	1	24.8	0.89 (0.56,1.42)	24.1	0.75 (0.47,1.19)
Total	3739	50.2		25.3		24.5	

Reference groups: no belief and no religious affiliation

* $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

[] indicates odds ratio based on cell count less than 5

Missing n = 38

The influence of maternal religious affiliation on young adult church attendance is highlighted in Table 20 below. Those young adults who attend church on a weekly basis are 20 times more likely to be offspring of mothers affiliated with one of the Pentecostal churches, around eight times more likely to be offspring of mothers affiliated with a non-Christian religion or other Christian religions, and more than twice as likely to be offspring of Catholic mothers, than those young adults who never attend church. Those young adults who attend church less frequently are around four times more likely to be offspring of mothers affiliated with a Pentecostal church, nearly three more times likely to be offspring of a Catholic mother, and over two and a half times more likely to have a mother affiliated with some other Christian church (similar to those whose mother refused to answer the religious affiliation item), than those young adults who never attend church. Interestingly, there appears to be no relationship between young adult church attendance on either a frequent or infrequent basis and having a mother who was affiliated with the Church of England at entry to the study.

Adjustment for the potential confounders identified for the association between maternal religious affiliation and young adult church attendance (maternal education, other substance use, and parents remaining together until adulthood) made little difference to the results reported in Table 20 for the unadjusted model (for example, Weekly church attendance and Pentecostal background – Adjusted OR = 20.0; 95%CI: 9.92,40.2).

Table 20: Maternal religious affiliation at entry to the study and church attendance in young adulthood

		Young adult frequency of church attendance					
Maternal religious affiliation	n	Never (n=2873)		Monthly or less (n=583)		Weekly (n=301)	
		%	OR	%	Unadj OR (95%CI)	%	Unadj OR (95%CI)
No religion	513	88.9	1	8.2	1	2.9	1
Catholic	1069	71.4	1	23.1	3.51*** (2.48,4.97)	5.5	2.35** (1.32,4.19)
Anglican	1088	86.9	1	10.4	1.30 (0.89,1.88)	2.8	0.96 (0.51,1.81)
Other Christian	784	65.2	1	16.8	2.80*** (1.94,4.06)	18.0	8.39*** (4.85,14.5)
Pentecostal	93	48.4	1	19.4	4.34*** (2.31,8.17)	32.3	20.3*** (10.15,40.5)
Non-Christian	27	66.7	1	14.8	[2.41] (0.78,7.46)	18.5	8.44*** (2.76,25.8)
Not defined	50	84.0	1	10.0	1.29 (0.48,3.44)	6.0	[2.17] (0.60,7.80)
Refused to answer	133	69.9	1	16.5	2.57** (1.46,4.50)	13.5	5.88*** (2.86,12.1)
Total	3757	76.5		15.5		8.0	

Reference groups: never attends church and no religious affiliation

* $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

[] indicates odds ratio based on cell count less than 5

Missing n = 20

Summary of findings on religious background and young adult religiosity

The findings related to religious background identify measures of maternal religiosity as being strongly related to traditional and non-traditional R/S beliefs and attendance at church on a weekly basis in young adulthood. The main findings are summarised below (Table 21) with the categories of religious affiliation being listed in descending order according to the strength and significance of the associations observed between them and the three domains of young adult religiosity examined. The findings included in the upper part of the table indicate

that maternal belief in God and weekly church attendance are both positively associated with young adult belief in God and weekly church attendance, but negatively associated with belief in a spiritual or higher power other than God. When considering maternal religious affiliation, offspring with a Pentecostal background stand out as the group most likely to maintain a traditional belief in God, to attend church on a weekly basis, and to reject non-traditional R/S beliefs. Those born to Anglican mothers stand apart from Catholics, other Christian religions, and Pentecostals as being no different to those raised by mother who stated that she had no religion at entry to the study in terms of either weekly church attendance or endorsement of non-traditional R/S beliefs. While rates of weekly church attendance observed for the non-Christian group are in line with those observed for the Other Christian group, caution needs to be taken when interpreting this result. Some of the non-Christian group may have reported never attending church because the item used on survey forms did not specify attendance at mosques or temples. Others from the non-Christian group may have assumed that the term “church” was designed to assess frequency of worship, and thus endorsed one of the responses that captured the frequency of their attendance at mosques or temples. One third of the non-Christian group reported attending church. Since the church attendance measure lacks content validity for non-Christians and estimates for this group are also subject to attrition bias, there is no way of knowing whether the estimates for the association between a non-Christian background and frequency of church attendance in young adulthood are an under- or overestimate.

When considering the findings shown in the lower part of the summary table, an interesting pattern emerges in relation to the connections between maternal religiosity and young adults being unsure about their R/S beliefs in particular. Firstly, maternal belief in God is positively related to young adults’ uncertainty about the existence of God and has no relationship with their uncertainty about belief in a spiritual or higher power. A similar pattern emerges for maternal church attendance on a less than weekly basis. Thus, while maternal belief in God and weekly church attendance strongly predict these same beliefs/behaviours among their offspring and rejection of non-traditional R/S beliefs, maternal belief in God and infrequent church attendance also predict young adult uncertainty about God. Maternal belief in God appears to have no connection to the reduction of doubt in young adults’ minds about the possibility of the existence of spiritual or higher power other than God. This same absence of effect is evident for offspring of Anglican and Catholic mothers. Offspring of Anglican mothers also stand out as the only group that has no positive association with young adult church attendance on a less than weekly basis. Even though a range of potential confounders

were identified for associations between religious background and young adult religiosity, none of these were found to have any influence on the observed associations. Finally, sensitivity analyses revealed that the substitution of means values for missing potential confounder data had not biased any of the estimates reported in this section.

Table 21: Summary table of main associations found between religious background and young adult religiosity

Main associations observed for young adult religiosity			
Religious background	Believes in God	Believes in a spiritual or higher power	Attends church weekly
Maternal belief in God	Positive	Negative	Positive
Maternal weekly church attendance	Positive	Negative	Positive
Maternal religious affiliation ^a	Positive for: <i>Pentecostal</i> <i>Catholic</i> <i>Non-Christian</i> ^b <i>Other Christian</i> <i>Anglican</i>	Negative for: <i>Pentecostal</i> <i>Other Christian</i> <i>Catholic</i> Null for: <i>Anglican</i> <i>Non-Christian</i> ^b	Positive for: <i>Pentecostal</i> <i>Non-Christian</i> ^b <i>Other Christian</i> <i>Catholic</i> Null for: <i>Anglican</i>
Religious background	Unsure of God	Unsure of spiritual of higher power	Attends church monthly or less
Maternal belief in God	Positive	Null	Positive
Maternal church attendance monthly or less	Positive	Null ^c	Positive
Maternal religious affiliation ^a	Positive for: <i>Anglican</i> <i>Catholic</i> <i>Other Christian</i> Null for: <i>Pentecostal</i> <i>Non-Christian</i> ^b	Negative for: <i>Pentecostal</i> <i>Other Christian</i> Null for: <i>Catholic</i> <i>Anglican</i>	Positive for: <i>Pentecostal</i> <i>Catholic</i> <i>Other Christian</i> Null for: <i>Anglican</i>

a: Not defined, refused to answer categories omitted from table

b: Estimates related to the non-Christian group are subject to bias due to attrition and small sample size

c: A weak and negative association observed when sample restricted to those for whom maternal church attendance was measured at five years post-delivery

Section Two: Religiosity and anxiety/depression

The findings reported in this section reflect the results derived from univariate and multivariable logistic regression analyses undertaken to identify relationships between young adult religiosity, religious background and female and male anxiety/depression. It is important to note that multivariable models were only used in instances where significant associations were found between a given explanatory variable and anxiety/depression, with the potential

confounders included in these models being restricted to those identified from the initial linear regression analyses as being significantly associated with both the explanatory variable and anxiety/depression (see Appendix F).

Young adult religiosity and anxiety/depression

Young adult belief in God

Table 22 shows the association observed between belief in God and anxiety/depression among female and male respondents. Females and males who believe in God, as well as those who are unsure whether or not they believe in God, appear to have neither an elevated nor a reduced risk for anxiety/depression compared to those who reject this belief.

Table 22: Traditional beliefs and anxiety/depression among females and males in young adulthood

Belief in God	Young adult anxiety/depression							
	Females				Males			
	n	% Case	Unadj OR	(95%CI)	n	% Case	Unadj OR	(95%CI)
No	378	5.0	1	1	447	2.5	1	
Unsure	529	5.7	1.14	(0.63,2.05)	419	3.6	1.47	(0.67,3.24)
Yes	899	5.3	1.07	(0.62,1.84)	739	3.1	1.27	(0.61,2.64)
Total	1806	5.4			1605	3.1		

Reference group is no belief

Significance level set at $P = < 0.05$

Young adult belief in a spiritual or higher power other than God

In contrast to the findings for traditional R/S beliefs, a positive association was found between non-traditional R/S beliefs and anxiety/depression for both males and females. Table 23 below shows the findings for females. Those females who believe in a spiritual or higher power other than God are 1.79 times more likely to be anxious and depressed than those who reject this belief. Since high use of alcohol and cannabis, other substance use, as well as parents remaining together until adulthood were identified as potential confounders, each of these variables were entered separately into multivariable logistic regression models. Little change of effect was observed from adjustment for alcohol use (Adjusted OR = 1.75; 95%CI: 1.09,2.82), cannabis use (Adjusted OR = 1.74; 95%CI: 1.08,2.81), other substance use (Adjusted OR = 1.73; 95%CI: 1.07,2.79), or parents remaining together (Adjusted OR = 1.75;

95%CI: 1.09,2.81). Once all of the variables were entered simultaneously into the one multivariable logistic regression model, the odds ratio for anxiety/depression reduced to 1.65, but the association remained weakly significant (see Table 23, Model 2).

In order to test whether pre-existing anxiety/depression might predispose young adult females toward non-traditional beliefs in the first instance, and thus explain the link found between belief in a spiritual or higher power other than God and female anxiety/depression, Model 2 was repeated with the exclusion of all those females who were assessed from self-reports as having borderline threshold anxiety/depression at the time of the 14-year follow-up. The exclusion of this group led to a strengthening of this association, such that the adjusted odds ratio increased to 2.07 (95%CI: 1.20,3.57). This result suggests that the positive association observed between non-traditional R/S beliefs and female anxiety/depression is not explained by anxiety/depression in adolescence.

Table 23: Non-traditional beliefs and anxiety/depression among young adult females

Belief in a spiritual or higher power	n	Female anxiety/depression		
		% Case	Model 1 Unadj OR (95%CI)	Model 2 Adj OR (95%CI)
No	795	4.3	1	1
Unsure	485	4.9	1.16 (0.68,1.99)	1.11 (0.65,1.90)
Yes	526	7.4	1.79* (1.12,2.88)	1.65* (1.02,2.66)
Total	1806	5.4		

Reference group is no belief

* $P < 0.05$

Model 2: Adjusted for alcohol, cannabis, and other substance use, and parents remaining together in young adulthood

For males, belief in a spiritual or higher power is also associated with an elevated risk for being anxious/depressed (2.5 times that of the no belief group – see Table 24). Adjustment for potential confounders individually, led to a small reduction in the odds ratio in the case of cannabis use (Adjusted OR = 2.24; 95%CI: 1.13,4.44), but little change of effect was observed for either other substance use (Adjusted OR = 2.53; 95%CI: 1.28,4.44), parents remaining together (Adjusted OR = 2.46; 95%CI: 1.25,4.86) or quality of neighbourhood (Adjusted OR = 2.45; 95%CI: 1.24,4.84). Once all of these potential confounders were entered simultaneously into the one multivariable model (see Table 24, Model 2), the odds ratio reduced to 2.21.

After re-running Model 2, with the exclusion of those males who had borderline anxiety/depression in adolescence (according to self-report), the association between belief in a spiritual or higher power other than God and male anxiety/depression was not statistically significant (Adjusted OR = 1.77; 95%CI: 0.81,3.87). Thus, it appears that for males, pre-existing anxiety/depression may lead to the uptake of non-traditional R/S beliefs, and may therefore explain the association between non-traditional R/S beliefs and male anxiety/depression in young adulthood.

Table 24: Non-traditional beliefs and anxiety/depression among young adult males

Belief in a spiritual or higher power	n	Male anxiety/depression in young adulthood		
		% Case	Model 1 Unadj OR (95%CI)	Model 2 Adj OR (95%CI)
No	914	2.1	1	1
Unsure	376	3.7	1.82 (0.90,3.67)	1.79 (0.88,3.62)
Yes	315	5.1	2.52** (1.28,4.96)	2.21* (1.11,4.41)
Total	1605	3.1		

Reference group is no belief

*P = < 0.05 ** P = < 0.01

Model 2: Adjusted for cannabis, and other substance use, parents remaining together, and quality of neighbourhood in young adulthood

Young adult church attendance

Like belief in God, frequency of church attendance among young adults appears to be unrelated to anxiety/depression, as shown in Table 25 below. Neither infrequent nor regular church attenders have rates of anxiety/depression that differ from those who never attend church. This applies to both females and males.

Table 25: Church attendance and anxiety/depression among young adult females and males

Church attendance	Anxiety/depression in young adulthood					
	Females (N = 1806)			Males (N = 1605)		
	n	% Case	Unadj OR (95%CI)	n	% Case	Unadj OR
Never	1379	5.7	1	1220	3.4	1
Monthly or less	267	3.0	0.51 (0.24,1.06)	262	2.3	0.67 (0.28,1.60)
Weekly	160	6.3	1.10 (0.56,2.16)	123	1.6	0.48 (0.11,1.99)
Total	1806	5.4		1605	3.1	

Reference group is no church attendance

Significance level set at $P = < 0.05$

Religious background and anxiety/depression in young adulthood

Maternal belief in God, church attendance, and religious affiliation

The results from logistic regression analyses examining connections between maternal belief in God, church attendance and religious affiliation and young adult anxiety/depression suggest that these measures of maternal religiosity during young adults' formative years have no direct connection to anxiety/depression in young adulthood for either males or females (see Table 26 below).

Table 26: Religious background and anxiety/depression among young adult females and males

Religious background	Anxiety/depression in young adulthood					
	Females			Males		
	(N = 1806)			(N = 1605)		
	n	% Case	Unadj OR (95%CI)	n	% Case	Unadj OR (95%CI)
<i>Maternal belief in God at entry to the study</i>						
No/Don't know	356	7.3	1	319	3.4	1
Yes	1450	4.9	0.65 (0.41,1.04)	1286	3.0	0.85 (0.43,1.69)
Total	1806	5.4		1605	3.1	
<i>Maternal church attendance in offspring's early years</i>						
Never	1049	5.6	1	933	3.0	1
Monthly or less	425	3.8	0.66 (0.37,1.15)	358	3.9	1.31 (0.68,2.53)
Weekly	332	6.6	1.19 (0.72,1.97)	314	2.2	0.74 (0.32,1.71)
Total	1806	5.4		1605	3.1	
<i>Maternal religious affiliation</i>						
No religion	230	5.2	1	225	4.4	1
Catholic	515	5.0	0.97 (0.48,1.95)	471	2.5	0.56 (0.24,1.32)
Anglican	540	6.1	1.18 (0.60,2.33)	376	2.2	0.49 (0.20,1.19)
Other Christian	440	5.2	1.00 (0.49,2.05)	84	3.7	0.83 (0.36,1.91)
Other groups*	81	3.7	0.70 (0.19,2.54)	225	3.6	0.80 (0.21,2.97)
Total	1806	5.4		1605	3.1	

Reference categories: no belief; no church attendance; no religious affiliation

Significance level set at $P = 0.05$

* Includes non-Christians, those who refused to respond to the religious affiliation item, and ill-defined religion

Independent associations between non-traditional beliefs and anxiety/depression in young adulthood

In order to assess the extent that the positive associations between belief in a spiritual or higher power other than God and young adult anxiety/depression might be affected by other factors related to young adult religiosity, further multivariable logistic regression models were used. Adjustment for belief in God led to a slight increase in the odds ratio for both females and males (Females – Adjusted OR = 1.86; 95%CI: 1.13,3.08 and Males – Adjusted OR = 2.52; 95%CI: 1.26,5.01), as did adjustment for frequency of church attendance (Females – Adjusted OR = 1.81; 95%CI: 1.10,2.99 and Males – Adjusted OR = 2.44; 95%CI: 1.23,4.81). Adjustment for both of these influences and potential confounders revealed the odds ratio for

anxiety/depression for females who hold non-traditional R/S beliefs to be 1.78 (1.05,3.01) and for males, 2.15 (1.06,4.36). Thus, young adult females who believe in a spiritual or higher power other than God are 1.78 times, and males 2.15 times more likely than those who reject these beliefs to have anxiety/depression in young adulthood when other R/S, social factors, and health-risk behaviours are taken into account.

Summary of findings on young adult anxiety/depression

The following summary table (Table 27) provides an overview of the associations found between young adult religiosity and religious background and anxiety/depression in young adulthood. Overall, the findings show that there is no association between either belief in God or participation in church services in young adulthood, or religious background and borderline anxiety/depression among the study sample. By contrast, religiosity involving non-traditional R/S beliefs appears to place young adults, both female and male, at increased risk for anxiety/depression. However, the increased likelihood of males being anxious/depressed from belief in a spiritual or higher power other than God appears to be linked to them having been anxious/depressed in adolescence.

Table 27: Summary table of main associations found between religiosity and young adult anxiety/depression

Dimension of religiosity	Indicator	Young adult anxiety/depression	
		Females	Males
<i>Young adult religiosity</i>	Belief in God	Null	Null
	Belief in a spiritual or higher power	Positive	Positive ^a
	Church attendance	Null	Null
<i>Religious background</i>	Maternal belief in God	Null	Null
	Maternal church attendance	Null	Null
	Maternal religious affiliation	Null	Null

^a Not statistically significant when the sample is restricted to males without a history of anxiety/depression in adolescence

Finally, all the analyses related to anxiety/depression were repeated with the exclusion of those young adults for whom missing potential confounder data had been assigned mean values. The results were almost identical. Thus, the estimates reported throughout this section have not been affected by bias related to the substitution of mean values for missing data.

Section 3: Religiosity and delusional ideation

This section presents the results for the logistic regression analyses undertaken to detect links between young adult religiosity and religious background, and delusional ideation. Where significant associations were found, multivariable logistic regression models were then used, including variables identified as potential confounders (see Appendix G, Tables G1 and G2 for potential confounder identified for religious ideation and total PDI scores respectively).

Young adult religiosity and delusional ideation

Young adult belief in God

Univariate logistic regression analyses revealed that there are no significant differences between young adults who believe in God and those who reject this belief for the domains of disturbed ideation, suspiciousness, or paranormal ideation. Nor were any differences found between those who stated that they were unsure if they believed in God and the non-belief group for these delusional domains. The results for each of these three domains are provided in the one table below, Table 28. Since the religious ideation items from the PDI rest on belief in God, religious ideation was excluded from this set of analyses.

Table 28: Traditional beliefs and disturbed, suspicious, and paranormal ideation among young adults

Belief in God	n	Disturbed		Suspicious		Paranormal ^a	
		% Case	Unadj OR (95% CI)	% Case	Unadj OR (95% CI)	% Case	Unadj OR ^a (95% CI)
No	815	11.2	1	19.6	1	20.1	1
Unsure	927	11.8	1.06 (0.79,1.42)	20.7	1.07 (0.85,1.35)	18.3	0.89 (0.70,1.13)
Yes	1592	11.7	1.06 (0.81,1.38)	18.7	0.94 (0.76,1.17)	19.5	0.96 (0.78,1.19)
Total	3334	11.6		19.5		19.3	

Reference group is no belief

Significance level set at $P = < 0.05$

a: Adjustment for gender had no effect on the associations between either the unsure or yes groups and paranormal ideation

While those young adults who believe in God appear to be no different to those who reject this belief in regard to the delusional domains of disturbed, suspicious, and paranormal

ideation, they are at greater risk for high total PDI scores. Table 29 shows that after adjustment for cannabis use (Model 2) the relationship between belief in God and high total PDI scores strengthens somewhat, and the null association for those who are unsure if they believe in God in the unadjusted model (Model 1) becomes weakly significant. There is no change in the significance of the association for the unsure group when adjustment is made for other substance use only (Model 3). When both of these factors are taken into account in the one multivariable model (Model 4), the group who are uncertain about believing in God are around 1.43 times more likely to have high total PDI scores than those who do not believe in God. The same pattern of increase in the odds ratio emerges for those who believe in God after adjustment for cannabis use (Model 2) and for other substance use (Model 3). After adjustment for both of these factors simultaneously (Model 4), believers in God are twice as likely to have high total PDI scores as those who reject this belief. The reason for these somewhat curious results becomes clear later in this section of results, when adjustment is made for non-traditional R/S beliefs when investigation focuses on determining the independent contribution of belief in God to high total PDI scores.

Table 29: Traditional beliefs and total PDI scores among young adults

Belief in a spiritual or higher power	n	% Case	High total PDI scores			
			Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	815	9.0	1	1	1	1
Unsure	927	10.9	1.24 (0.90,1.71)	1.39* (1.00,1.92)	1.30 (0.94,1.79)	1.43* (1.03,1.99)
Yes	1592	13.8	1.63** (1.23,2.15)	1.92*** (1.44,2.56)	1.71*** (1.29,2.27)	1.97*** (1.47,2.64)
Total	3334	11.6				

Reference group is no belief

* $P = < 0.05$ ** $P = < 0.01$ *** $P = < 0.001$

Model 2: Adjusted for cannabis use in young adulthood

Model 3: Adjusted for other substance use in young adulthood

Model 4: Adjusted for cannabis use and other substance use in young adulthood

Young adult belief in a spiritual or higher power

The results from univariate and multivariable logistic regression analyses examining associations between non-traditional R/S and delusional ideation reveal that a non-traditional approach to the divine is strongly and positively associated with upper decile scores for three

of the delusional ideation domains (disturbed, suspicious, paranormal), as well as total PDI scores, and negatively associated with religious ideation.

In regard to disturbed ideation, Table 30 shows that those who believe in a spiritual or higher power other than God are more than twice as likely to score in the upper decile of disturbed ideation. There is a very slight reduction in the odds ratio for those who hold this belief following adjustment for cannabis use in young adulthood (Model 2) and for quality of neighbourhood in young adulthood (Model 3). Adjustment for each of the other potential confounders also led to a trivial reduction in the odds ratio for the believer group, including other substance use (Adjusted OR=2.16; 95%CI: 1.69,2.75) and parents remaining together until young adulthood (Adjusted OR=2.19; 95%CI: 1.72,2.79) (not shown in Table 30). After adjustment for all influences identified as potential confounders (Model 4), the association between non-traditional R/S beliefs and disturbed ideation remains highly significant, with the risk for disturbed ideation being almost twice that of the reference group (those who reject non-traditional beliefs). No appreciable difference was observed when Model 4 was re-run with young adults who had thought problems in adolescence being excluded from the analysis (Adjusted OR = 1.93; 95%CI: 1.47,2.54).

Table 30: Non-traditional beliefs and disturbed ideation among young adults

Belief in a spiritual or higher power	n	% Case	Disturbed ideation			
			Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	1683	9.2	1	1	1	1
Unsure	834	9.7	1.06 (0.80,1.41)	1.06 (0.80,1.41)	1.07 (0.80,1.42)	1.06 (0.80,1.42)
Yes	817	18.5	2.23*** (1.75,2.85)	2.09*** (1.63,2.67)	2.15*** (1.69,2.75)	1.97*** (1.54,2.53)
Total	3334	11.6				

Reference group is no belief

*** $P < 0.001$

Model 2: Adjusted for cannabis use in young adulthood

Model 3: Adjusted for quality of neighbourhood

Model 4: Adjusted for cannabis use, other substance use, quality of neighbourhood, and parents together in young adulthood.

The results for delusional ideation characterised by suspiciousness (or paranoid ideation) are shown in Table 31. The positive and highly significant association between belief in a spiritual or higher power other than God and suspicious ideation persists after adjustment for

cannabis use (Model 2), and quality of neighbourhood (Model 3). Additional multivariable logistic regression analyses revealed that adjustment for other substance use and for parents remaining together until young adulthood (not shown in Table 30) had little effect on this association (Adjusted OR=1.62; 95%CI:1.32,1.98 and Adjusted OR=1.61; 95%CI: 1.32,1.97 respectively). Once all potential confounders were entered into the one model (Model 4) the increased risk for suspicious ideation from non-traditional R/S beliefs reduces to 1.5, but remains highly significant. Repeating this analysis with the exclusion of those who had thought problems in adolescence made little difference to the observed association (Adjusted OR = 1.52; 95%CI: 1.21,1.90).

Table 31: Non-traditional beliefs and suspiciousness among young adults

Belief in a spiritual or higher power	n	% Case	Suspicious ideation			
			Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	1683	17.1	1	1	1	1
Unsure	834	18.5	1.10 (0.88,1.36)	1.10 (0.88,1.36)	1.10 (0.89,1.37)	1.10 (0.88,1.37)
Yes	817	25.5	1.65*** (1.35,2.02)	1.57*** (1.28,1.93)	1.60*** (1.31,1.97)	1.50*** (1.22,1.84)
Total	3334	19.5				

Reference group is no belief

*** $P = < 0.001$

Model 2: Adjusted for cannabis use in young adulthood

Model 3: Adjusted for quality of neighbourhood

Model 5: Adjusted for cannabis use, other substance use, quality of neighbourhood, and parents together in young adulthood.

Table 32 depicts the results from the logistic regression analyses that examine the link between belief in a spiritual or higher power other than God and paranormal ideation. Those who endorse non-traditional beliefs are more than four times more likely than those who reject these beliefs to have high levels of paranormal ideation. After adjustment for gender (since paranormal ideation was observed to more prevalent among females – see Model 2), gender and cannabis use (Models 3), and gender and quality of neighbourhood (Model 4), this effect remains strong and highly significant. Likewise, adjustment for gender and other substance use, and for gender and parents remaining together until adulthood (not shown in Table 32) made little difference to this association (Adjusted OR=4.36; 95%CI: 3.54,5.35 and Adjusted OR=4.38; 95%CI:3.57,5.38 respectively). After adjustment for all potential

confounders (Model 5), the odds ratio for paranormal ideation is still more than four. These results are not surprising given that the paranormal ideation items include belief in the power in witchcraft, the occult, or voodoo, in telepathic communication, and two items that capture grandiosity – all aspects associated with the New Spirituality. Most interesting though is that those who are unsure whether or not they endorse non-traditional beliefs are 1.38 times more likely than those who reject belief in a spiritual or higher power to score in the upper decile range of paranormal ideation (see Model 1). After adjustment for various potential confounders (Models 2, 3, and 4) the significance of the association changed from moderate to weak. This same pattern emerged after adjustment for gender and other substance use, and gender remaining together until adulthood (not shown in Table 32 – adjusted OR=1.36; 95%CI: 1.07,1.72 and adjusted OR=1.36; 95%CI: 1.07,1.72 respectively). After adjustment for all of these influences in the one model (Model 5), the association remains weakly significant.

The exclusion of young adults with thought problems in adolescence and the re-running of Model 5 produced similar results (Unsure – adjusted OR = 1.37; 95%CI: 1.06,1.77 and Yes – adjusted OR = 4.31; 95%CI: 3.45,5.39).

Table 32: Non-traditional beliefs and paranormal ideation among young adults

Belief in a spiritual or higher power	n	% Case	Paranormal ideation				
			Model 1	Model 2	Model 3	Model 4	Model 5
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	1683	12.0	1	1	1	1	1
Unsure	834	15.8	1.38** (1.09,1.75)	1.36* (1.07,1.73)	1.35* (1.06,1.71)	1.37* (1.08,1.73)	1.35* (1.06,1.71)
Yes	817	38.1	4.51*** (3.67,5.52)	4.43*** (3.61,5.44)	4.19*** (3.40,5.15)	4.36*** (3.55,5.36)	4.11*** (3.34,5.07)
Total	3334	19.3					

Reference group is no belief

* $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

Model 2: Adjusted for gender

Model 3: Adjusted for gender and cannabis use in young adulthood

Model 4: Adjusted for gender and quality of neighbourhood

Model 5: Adjusted for gender, cannabis and other substance use in young adulthood, quality of neighbourhood, and parents remaining together in young adulthood

Table 33 shows that those who endorse, as well as those who are unsure whether or not they endorse non-traditional R/S beliefs are much less likely than those who reject these beliefs to score highly on the religious ideation factor. Adjustment for the only potential

confounder identified for this association, parents remaining together until adulthood (Model 2), made no difference to this association. The repeating of Model 2 with the exclusion of young adults who had borderline thought problems in adolescence made little change to these associations (Unsure – adjusted OR = 0.18; 95%CI: 0.12,0.28 and Yes – adjusted OR = 0.51; 95%CI: 0.37,0.69). Most interesting is that the negative effect on religious ideation is stronger for those who are uncertain whether they believe in a spiritual or higher power than it is for those who endorse this belief. This is no doubt due to the fact that around 10 per cent of those who endorse non-traditional R/S beliefs also believe in God, while the majority of those who are uncertain about this belief are also uncertain about God.

Table 33: Non-traditional beliefs and religious ideation among young adults

Belief in a spiritual or higher power	Religious ideation			
	n	% Case	Model 1	Model 2
			Unadj OR (95%CI)	Adj OR (95%CI)
No	1683	14.7	1	1
Unsure	834	3.0	0.18*** (0.12, 0.27)	0.18*** (0.12,0.27)
Yes	817	7.6	0.47*** (0.35,0.64)	0.48*** (0.36,0.64)
Total	3334	10.0		

Reference group is no belief

*** $P < 0.001$

Model 2: Adjusted for parents remaining together until adulthood

Table 34 shows that non-traditional beliefs are associated with a more than two-fold increased risk for high total PDI scores. There is little attenuation of effect after adjustment for cannabis use (Model 2), quality of neighbourhood (Model 3), or for two other factors not shown in Table 34 (parents remaining together until adulthood – adjusted OR=2.55; 95%CI: 2.01,3.23 and other substance use – adjusted OR=2.52; 95%CI: 1.99,3.20). Once all potential confounders were entered simultaneously into the same logistic regression model (Model 4), there was a small reduction in the odds for high total PDI scores from that observed in the unadjusted model (Model 1). No differences are evident for the unsure group compared to the no belief group. The exclusion of young adults with thought problems in adolescence from the Model 4 analysis yielded similar results to those obtained using the whole sample, although the odds ratio diminished slightly (Adjusted OR = 2.34; 95%CI: 1.79,3.05).

Table 34: Non-traditional beliefs and total PDI scores among young adults

Belief in a spiritual or higher power	n	% Case	High total PDI scores			
			Model 1	Model 2	Model 3	Model 4
			Unadj OR	Adj OR	Adj OR	Adj OR
			(95%CI)	(95%CI)	(95%CI)	(95%CI)
No	1683	9.2	1	1		1
Unsure	834	8.2	0.87 (0.65,1.18)	0.87 (0.64,1.18)	0.88 (0.65,1.19)	0.87 (0.64,1.18)
Yes	817	20.9	2.61*** (2.06,3.30)	2.44*** (1.91,3.10)	2.53*** (1.99,3.21)	2.31*** (1.81,2.95)
Total	3334	11.8				

Reference group is no belief

*** $P = < 0.001$

Model 2: Adjusted for cannabis use in young adulthood

Model 3: Adjusted for quality of neighbourhood

Model 4: Adjusted for cannabis and other substance use in young adulthood, quality of neighbourhood, and parents remaining together until young adulthood.

Young adult church attendance

Young adult church attendance was found to have no association with disturbed or suspicious ideation or high total PDI scores, as shown in Table 35 below. Neither those who attend church on a weekly basis, nor those who attend church monthly or less have higher or lower rates of delusional ideation in the domains of disturbed and suspicious ideation than those who never attend church. Most noteworthy is that churchgoers, regardless of how often they attend church, have no elevated risk for high total PDI scores, in contrast to the results found for belief in God reported earlier in this section.

Table 35: Young adult church attendance and disturbed ideation, suspiciousness, and high total PDI scores

Young adult church attendance	n	Disturbed		Suspicious		High total PDI scores	
		% Case	Unadj OR (95%CI)	% Case	Unadj OR (95%CI)	% Case	Unadj OR (95%CI)
Never	2250	11.8	1	19.7	1	11.6	1
Monthly or	454	12.0	1.02 (0.76,1.37)	19.6	0.99 (0.78,1.26)	11.8	1.02 (0.76,1.37)
Weekly	243	9.3	0.77 (0.50,1.18)	17.2	0.84 (0.60,1.18)	14.2	1.26 (0.88,1.82)
Total	3334	11.6		19.5		11.8	

Reference group is no belief

Significance level set at $P = < 0.05$

Interestingly, those who attend church on a monthly or less basis are less likely than those who never attend church to have high scores for paranormal ideation, while regular churchgoers appear to be no different in this regard to those who never attend church (see Table 36 below). Adjustment for gender (Model 2) has no effect on this relationship. Adjustment for the other two potential confounders identified for this association, alcohol use and parents remaining together, also make little difference to the effects observed for the two church attending groups (Model 3).

Table 36: Young adult church attendance and paranormal ideation

Young adult church attendance	n	% Case	Paranormal ideation		
			Model 1 Unadj OR (95%CI)	Model 2 Adj OR (95%CI)	Model 3 Adj OR (95%CI)
Never	2250	20.3	1	1	1
Monthly or less	454	14.9	0.69** (0.53,0.89)	0.69** (0.53,0.90)	0.70** (0.54,0.91)
Weekly	243	18.7	0.90 (0.65,1.24)	0.89 (0.65,1.23)	0.91 (0.66,1.27)
Total	3334	19.3			

Reference group is no belief

** $P = < 0.01$

Model 2: Adjusted for gender

Model 3: Adjusted for gender, alcohol use, and parents remaining together

While religious ideation was excluded from analyses examining belief in God because

this form of ideation rests on belief in God, it was included in the analyses related to church attendance to determine any differences that might exist between those who never attend church and those who attend on an irregular basis. As might be expected, those who attend church irregularly are four times more likely to endorse both of the religious ideation items (believing in being “especially close to God” and having “been chosen by God in some way”) than non-churchgoers, while regular churchgoers are nearly 40 times more likely than non-churchgoers to endorse both of these items (see Table 37). There is little change in this effect following adjustment for the potential confounders of this association (maternal age and education, race, parents remaining together until adulthood, alcohol consumption) either individually (not shown in Table 37), or when entered simultaneously in the one multivariable model (see Model 2). The re-running of the full multivariable model, excluding those with thought problems in adolescence yielded similar results to those found for the total sample (monthly or less attendance – Adjusted OR = 4.20; 95%CI: 2.99,5.90 and weekly attendance – Adjusted OR = 38.0, 95%CI: 26.79,53.8).

Table 37: Young adult church attendance and religious ideation

Young adult church attendance	n	Religious ideation		
		% Case	Model 1	Model 2
			Unadj OR (95%CI)	Adj OR (95%CI)
Never	2250	3.9	1	1
Monthly or less	454	14.0	4.01*** (2.91,5.53)	4.00*** (2.90,5.53)
Weekly	243	61.2	39.0*** (28.4,53.6)	37.9*** (27.1,52.9)
Total	3334	10.0		

Reference group is never attends church

*** $P = < 0.001$

Model 2: Adjusted for maternal age and education, race, alcohol use and parents remaining together in young adulthood

Religious background and delusional ideation in young adulthood

Maternal belief in God

Young adults whose mothers believed in God at entry to the study appear to be no different than those whose mothers did not believe (or were unsure whether or not they believed) in God in regard to high scores for disturbed ideation, suspiciousness, paranormal ideation or total PDI scores, as shown below in Table 38.

Table 38: Maternal belief in God and disturbed, suspicious, and paranormal ideation, and high total PDI scores in young adulthood

		Young adult delusional ideation		
Form of delusional ideation	Maternal belief in God	n	% Case	Unadj OR ^a (95%CI)
<i>Disturbed</i>				
	No/unsure	664	13.4	1
	Yes	2670	11.2	0.81 (0.63,1.05)
	Total	3334	11.6	
<i>Suspicious</i>				
	No/unsure	664	17.2	1
	Yes	2670	20.1	1.21 (0.97,1.51)
	Total	3334	19.5	
<i>Paranormal</i> ^a				
	No/unsure	664	17.8	1
	Yes	2670	19.7	1.14 (0.91,1.42)
	Total	3334	19.3	
<i>Total PDI scores</i>				
	No/unsure	664	12.2	1
	Yes	2670	11.7	0.96 (0.74,1.24)
	Total	3334	11.8	

Reference group is no belief

Significance level set at $P = < 0.05$

a: Adjustment for gender made no difference to the association between maternal belief in God and paranormal ideation

Maternal belief in God does predict religious ideation however, with offspring of mothers who believed in God being over two and a half times more likely to endorse both religious ideation items than offspring of mothers who did not endorse this belief at entry to the study (see Table 39, Model 1). Adjustment for each of the potential confounders of this association individually, had little effect (maternal age and education, race, and parents remaining together until young adulthood – not shown in Table 39). Adjustment for all of these influences simultaneously also makes little difference to this association, as shown in Table 39, Model 2.

Re-running these analyses with the exclusion of those young adult were assessed to have borderline thought problems produced similar results (Adjusted OR = 2.55; 95%CI: 1.71,3.81).

Table 39: Maternal belief in God and religious ideation in young adulthood

Maternal church attendance	n	Religious ideation in young adulthood		
		% Case	Model 1	Model 2
			Unadj OR (95%CI)	Adj OR (95%CI)
No/unsure	664	4.5	1	1
Yes	2670	11.4	2.72*** (1.85,3.99)	2.60*** (1.76,3.82)
Total	3334	10.0		

Reference group is mother never attending church

*** $P = < 0.001$

Model 2: Adjusted for maternal age and education, race, and parents remaining together in young adulthood

Maternal church attendance in the young adults' early years

Like maternal belief in God, maternal church attendance during the child's early years appears to have no relationship with offspring delusional ideation in the domains of disturbed, suspicious, or paranormal ideation, or high total PDI scores, as shown in Table 40 below.

Table 40: Maternal church attendance and disturbed, suspicious, and paranormal ideation, and total PDI scores in young adulthood

			Young adult delusional ideation	
Form of delusional ideation	Maternal church attendance	n	% Case	Unadj OR ^a (95%CI)
<i>Disturbed</i>				
	Never	1938	11.8	1
	Monthly or less	769	10.8	0.90 (0.70,1.18)
	Weekly	627	12.0	1.01 (0.77,1.34)
	Total	3334	11.6	
<i>Suspicious</i>				
	Never	1938	19.9	1
	Monthly or less	769	19.6	0.99 (0.80,1.22)
	Weekly	627	18.2	0.90 (0.71,1.13)
	Total	3334	19.5	
<i>Paranormal ^a</i>				
	Never	1938	19.8	1
	Monthly or less	769	18.9	0.94 (0.76,1.17)
	Weekly	627	18.7	0.93 (0.74,1.17)
	Total	3334	19.3	
<i>Total PDI</i>				
	Never	1938	11.5	1
	Monthly or less	769	10.8	0.93 (0.72,1.22)
	Weekly	627	14.2	1.28 (0.98,1.67)
	Total	3334	11.8	

Reference group is mother never attending church

Significance level set at $P = < 0.05$

a: Adjustment for gender made no difference to the associations for paranormal ideation for either of the church attendance groups

Similar to the results for maternal belief in God, maternal church attendance is strongly associated with religious ideation in young adulthood. Table 41 shows that offspring of weekly church attenders are around eight times more likely, and those whose mothers attended church monthly or less are around twice as likely, to endorse both religious ideation items than those whose mothers never attended church during the young adults' early years (Model 1). Multivariable logistic regression models were used to determine whether adjustment for potential confounders affected this association (alcohol use, maternal education and age, race, and parents remaining together until adulthood). As with maternal belief in God, adjustment

for each of the potential confounders identified for this association produced little change in effect (not shown in Table 41). After adjustment for all of these influences in the one multivariable model (Model 2), the odds ratio reduces slightly, but the association remains highly significant.

Re-running Model 2 with the exclusion of young adults who had borderline thought problems in adolescence, produced similar results (Monthly or less – adjusted OR = 1.94; 95%CI: 1.37,2.74 and Weekly – adjusted OR = 7.63; 95%CI: 5.68,10.2). A sensitivity analysis also showed that the exclusion of the small number of young adults for whom maternal church attendance was measured during the prenatal period instead of 5 years post-delivery made little difference to the association reported in Model 2.

Table 41: Maternal church attendance and religious ideation in young adulthood

Maternal church attendance	n	% Case	Religious ideation	
			Model 1 Unadj OR (95%CI)	Model 2 Unadj OR (95%CI)
Never	1938	4.5	1	1
Monthly or less	769	9.1	2.10*** (1.52,2.92)	2.04*** (1.47,2.83)
Weekly	627	28.2	8.27*** (6.28,10.9)	7.68*** (5.79,10.2)
Total	3334	10.0		

Reference group is mother never attending church

*** $P = < 0.001$

Model 2: Adjusted for maternal age and education, race, alcohol use, and parents remaining together in young adulthood

Maternal religious affiliation

Before discussing the results for maternal religious affiliation and young adult delusional ideation, it is important to note that the seven-category religious affiliation variable was used for these analyses. Due to the small numbers of mothers identifying with particular religious groups, the Other Christian group includes a range of diverse religious groups including Lutherans, Methodists, Orthodox Christian groups, Jehovah's Witnesses, and numerous other groups. This category is given little attention in discussion since it involves a range of Christian religions encompassing different doctrines and practices. The Pentecostal group has been kept as a distinct category, since this religious affiliation differs from other Christian affiliations (including other Charismatic religious groups) in that its doctrine actively promotes the practice of speaking in tongues. Non-Christian religions and religious affiliation that was

not described by the study mothers are collapsed into a single category “Other”.

It can be seen from Table 42 below that maternal religious affiliation appears to have no association with disturbed, suspicious, or paranormal ideation in young adulthood. Even though rates of disturbed and paranormal ideation for the Pentecostal group appear to be somewhat higher than the reference group, these differences are not statistically significant.

Table 42: Maternal religious affiliation and disturbed, suspicious, and paranormal ideation in young adulthood

Maternal religious affiliation	n	Disturbed		Suspicious		Paranormal a	
		% Case	Unadj OR (95%CI)	% Case	Unadj OR (95%CI)	% Case	Unadj OR ^a (95%CI)
No religion	453	11.7	1	19.2	1	20.3	1
Catholic	966	10.2	0.86 (0.60,1.23)	19.6	1.02 (0.77,1.36)	18.4	0.89 (0.67,1.17)
Anglican	968	12.6	1.09 (0.77,1.53)	19.5	1.02 (0.77,1.36)	19.7	0.96 (0.73,1.27)
Other Christian	708	10.3	0.87 (0.60,1.27)	19.4	1.01 (0.74,1.35)	17.1	0.81 (0.60,1.10)
Pentecostal	84	19.0	1.78 (0.96,3.29)	20.2	1.07 (0.60,1.91)	28.6	1.57 (0.93,2.65)
Others ^b	61	13.1	1.78 (0.96,3.29)	24.6	1.37 (0.73,2.57)	19.7	0.96 (0.49,1.88)
No answer	94	17.0	1.55 (0.84,2.85)	17.0	0.86 (0.48,1.55)	28.7	1.58 (0.96,2.61)
Total	3334	11.6		19.5		19.3	

Reference group is no religion

Significance level set at $P = < 0.05$

a: Adjustment for gender made no difference to the associations between any of the religious affiliation groups and paranormal ideation

b: Includes non-Christian and non-defined groups

Differences found between the various maternal religious affiliation groups under examination and young adult religious ideation are depicted in Table 43. Attention to the odds ratios highlight that offspring of mothers affiliated with one of the Pentecostal churches have the greatest likelihood of endorsing both religious items in the PDI. The odds ratio of more than 15 suggests that maternal involvement with Pentecostal churches has a long-term influence over a young adult's belief that they have a special relationship with God. Interestingly, offspring of mothers who refused to answer the religious affiliation item are over six times more likely than those born to mothers with no religion to endorse both

religious ideation items, while offspring of Catholic mothers are 1.83 times more likely than the reference group to endorse both items. Offspring of Anglican mothers however, are no different in their rates of religious ideation to those whose mothers had no religious affiliation at entry to the study.

Adjustment for potential confounders, maternal education (Model 2), for parents remaining together until adulthood (Model 3), and for both of these influences (Model 4) led to minimal change for any of the religious affiliation categories. Likewise, the re-running of this analysis with the exclusion of those young adults who had thought problems in adolescence produced similar results to those found reported for Model 4.

The sensitivity analysis undertaken to determine the effect from mean values being substituted for missing potential confounder data revealed that the odds ratio for religious ideation for the Pentecostal group increased once those for whom missing data for the variable measuring parents remaining together until adulthood were excluded from the model. (Adjusted OR = 20.4; 95%CI: 10.5, 39.6). This was due to an increase in the rate of religious ideation among the Pentecostal group relative to the reference group (increased from 42.9% to 49.3%, while the rate for the no religious affiliation group remained the same – 4.6%) following the exclusion of individuals for whom there were missing data for the parents remaining together variable. The estimates for all other religious affiliation groups were similar to those reported for Model 4.

Table 43: Maternal religious affiliation and religious ideation in young adulthood

Maternal religious affiliation	n	Religious ideation in young adulthood				
		% Case	Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No religion	453	4.6	1	1	1	1
Catholic	966	8.2	1.83* (1.12,3.00)	1.87* (1.14,3.07)	1.82* (1.11,2.98)	1.86* (1.13,3.05)
Anglican	968	5.6	1.21 (0.72,2.04)	1.27 (0.76,2.13)	1.20 (0.72,2.02)	1.26 (0.75,2.12)
Other Christian	708	15.8	3.87*** (2.39,6.26)	3.97*** (2.45,6.44)	3.81*** (2.35,6.18)	3.92*** (2.42,6.36)
Pentecostal	84	42.9	15.4*** (8.34,28.5)	15.3*** (8.2,28.4)	15.2*** (8.19,28.1)	15.1*** (8.13,28.0)
Other ^a	61	16.4	4.03** (1.80,9.04)	4.16** (1.85,9.35)	4.02** (1.79,9.01)	4.14** (1.84,9.31)
No answer	94	24.5	6.66*** (3.50,12.7)	6.42*** (3.37,12.2)	6.56*** (3.45,12.5)	6.35*** (3.33,12.1)
Total	3334	10.0				

Reference group is no religion

* $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

a: Includes non-Christian and non-defined groups

Model 2: Adjusted for maternal education

Model 3: Adjusted for parents remaining together until adulthood

Model 4: Adjusted for maternal education and parents remaining together until adulthood

The results for total PDI scores shown in Table 44 that offspring of mothers who were affiliated with one of the Pentecostal churches are more than twice as likely as the reference group to have high total PDI scores (Model 1). Offspring of mothers affiliated with the Catholic, Anglican or Other Christian religions do not differ from those whose mothers had no religious affiliation at entry to the study in regard to their rates of high total PDI scores. After adjustment for potential confounders, the effect for the Pentecostal group persists, and the association for the no answer group becomes weakly significant (see Model 2). When those with thought problems in adolescence were excluded from this model, the results remained much the same for all groups, with the odds ratio for religious ideation increasing slightly for the Pentecostal group (OR = 2.74; 95%CI: 1.41,5.34).

The higher total PDI scores among the Pentecostal group are not surprising given that this group's rate of disturbed and paranormal ideation tended to be higher than the reference group, even though these differences failed to reach statistical significance (see Table 42).

With each individual PDI item being taken into account in the total PDI score, the Pentecostal group's tendency to endorse items within each of the domains of disturbed and paranormal ideation, as well as religious ideation, helps to explain the higher total PDI scores observed for this group. The items that assess disturbed ideation include having felt "as if you have no thoughts in your head at all" or that your thoughts "feel alien to you in some way", and feeling as if you are "a robot or zombie without a will of your own". Since Pentecostal churches practise speaking in tongues, endorsement of these items may well reflect the dissociative experiences of those who have attended Pentecostal services at some stage of their lives when "speaking in tongues", believing that they were taken over by the Holy Spirit at the time. Similarly, endorsement of items in the domain of paranormal (and grandiose) ideation, and religious ideation, indicate a tendency for this group to believe in the supernatural, that they are destined to be important, and that they have a special relationship with God, all help to account for the higher rate of high total PDI scores observed for the Pentecostal group.

Table 44: Maternal religious affiliation and total PDI scores in young adulthood

Maternal religious affiliation	n	High total PDI scores in young adulthood		
		%Case	Model 1	Model 2
			Unadj OR (95%CI)	Adj OR (95%CI)
No religion	453	10.8	1	1
Catholic	966	10.9	1.00 (0.70,1.44)	1.02 (0.71,1.46)
Anglican	968	13.1	1.24 (0.88,1.77)	1.27 (0.89,1.80)
Other Christian	708	10.0	0.92 (0.63,1.35)	0.95 (0.65,1.40)
Pentecostal	84	22.6	2.41** (1.33,4.35)	2.56** (1.41,4.64)
Other ^a	61	9.8	0.90 (0.37,2.20)	0.89 (0.36,2.19)
No answer	94	18.1	1.82 (1.00,3.33)	1.94* (1.06,3.55)
Total	3334	11.8		

Reference group is no religion

* $P < 0.05$ ** $P < 0.01$

Model 2: Adjusted for maternal education, and parents remaining together until adulthood

Independent associations between religiosity, religious background, and delusional ideation in young adulthood

Paranormal ideation

Being unsure of, as well as endorsement of non-traditional R/S beliefs, were each found to be positively associated with paranormal ideation (Unsure – adjusted OR = 1.35; Yes – adjusted OR = 4.11), while young adult church attendance on an infrequent basis was found to be negatively associated with this same outcome (Adjusted OR = 0.70). Non-traditional R/S beliefs were adjusted for young adult church attendance and potential confounders (gender, cannabis and other substance use, quality of neighbourhood, and parents remaining together until young adulthood) to determine the independent effect of non-traditional R/S beliefs on paranormal ideation. Those who are unsure whether or not they believe in a spiritual or higher power other than God were found to be 1.40 times more likely (95%CI: 1.10,1.80), and those who endorsed this belief were observed to be 4.23 times (95%CI: 3.42,5.24) more likely, to score in the upper decile of paranormal ideation than those who reject non-traditional R/S beliefs.

Religious ideation

Since church attendance in young adulthood and the three measures of maternal religiosity were found to be positively associated with religious ideation in young adulthood, additional multivariable logistic regression models were run to determine the independent effects of each of these influences on religious ideation.

In regard to frequency of young adult church attendance (see Model 1a for unadjusted odds ratios), adjustment for maternal church attendance led to a substantial reduction in the odds ratios for both infrequent and weekly church attendance (Monthly or less - adjusted OR = 3.11; 95%CI: 2.21,4.38 and Weekly – adjusted OR = 26.5; 95%CI: 18.4,38.4). Adjustment for maternal belief in God had a smaller effect (Monthly or less adjusted OR = 3.83; 95%CI:2.77,5.31 and Weekly – adjusted OR = 37.1; 95%CI:26.8,51.2). Adjustment for both of these influences simultaneously made little difference beyond that made by adjustment for maternal church attendance alone (Monthly or less – adjusted OR = 3.09; 95%CI: 2.21,4.38 and Weekly – adjusted OR = 26.4; 95%CI: 18.2,38.2) (these adjustments are not shown in Table 45). Adjustment for all of these influences as well as potential confounders yielded the results provided in Model 2a, Table 45. It can be seen that after adjustment for maternal church attendance and belief in God, and potential confounders, the odds for religious ideation reduces by approximately one quarter for young adults who attend church less than weekly,

and by approximately one third for weekly attenders. Thus, young adult church attendance has a strong positive association with religious ideation that is independent of maternal church attendance and maternal belief in God

Once maternal belief in God was adjusted for young adult church attendance, the significant positive association with religious ideation (Model 1b) became statistically insignificant (Adjusted OR = 1.36; 95%CI: 0.89,2.09) (not shown in Table 45). Similarly, the effect from maternal belief in God disappeared altogether after adjustment for maternal church attendance (Adjusted OR = 1.37; 95%CI: 0.91,2.07) (not shown in Table 45). After adjustment for both of these influences and potential confounders, the odds ratio for religious ideation from maternal belief in God reduces to 1.12 (shown in Model 2b in Table 45). Thus, maternal belief in God has no independent effect on religious ideation in young adulthood.

In regard to maternal church attendance (see Model 1c for unadjusted odds ratios), adjustment for young adult church attendance led to a considerable attenuation of effect (Monthly or less Adjusted OR = 1.57; 95%CI: 1.10,2.24 and Weekly Adjusted OR = 2.07; 95%CI:1.45,2.95), while adjustment for maternal belief in God led to a comparatively modest reduction in effect (Monthly or less Adjusted OR = 1.98; 95%CI: 1.42,2.77 and Weekly Adjusted OR = 7.66; 95%CI: 5.74,10.2) (not shown in Table 45). After adjustment for both of these variables and potential confounders in the one multivariable model (see Model 2c in Table 45), offspring of mothers who attended church infrequently are 1.54 times, and offspring of mothers who attended church on a weekly basis are two times more likely, to endorse both religious ideation items than those whose mothers never attended church.

Thus, young adult church attendance and maternal church attendance each has a strong positive influence on young adult religious ideation, that is independent of one another, as well as maternal belief in God.

Table 45: Independent associations between maternal and young adult church attendance, maternal belief in God, and religious ideation in young adulthood

Religiosity variable	n	Religious ideation in young adulthood		
		% Case	Model 1	Model 2
			Unadj OR (95%CI)	Adj OR ^{a,b,c} (95%CI)
<i>Young adult church attendance ^a</i>				
Never	2250	3.9	1	1
Monthly or less	454	14.0	4.01*** (2.91,5.53)	3.12*** (2.21,4.40)
Weekly	243	61.2	39.0*** (28.4,53.6)	26.01*** (17.8,38.1)
Total	3334	10.0		
<i>Maternal belief in God ^b</i>				
No/unsure	664	4.5	1	1
Yes	2670	11.4	2.72*** (1.85,3.99)	1.12 (0.72,1.74)
Total	3334	10.0		
<i>Maternal church attendance ^c</i>				
Never	1938	4.5	1	1
Monthly or less	769	9.1	2.10*** (1.52,2.92)	1.54* (1.07,2.22)
Weekly	627	28.2	8.27*** (6.28,10.9)	2.04*** (1.41,2.96)
Total	3334	10.0		

Reference group is never attends church

* $P < 0.05$ *** $P < 0.001$

Model 2^a: Adjusted for maternal belief in God, church attendance, education, age, race and alcohol use and parents being together in young adulthood

Model 2^b: Adjusted for maternal and young adult church attendance, maternal age and education, race and parents remaining together in young adulthood

Model 2^c: Adjusted for maternal belief in God, age, and education, race, young adult church attendance, alcohol use, and parents remaining together in young adulthood

In regard to maternal religious affiliation (see Table 46), the increased risk for delusional ideation among offspring of Catholic mothers in the unadjusted model (Model 1) disappears after adjustment for maternal church attendance (Model 2) and for belief in God (Adjusted OR = 0.99; 95%CI:0.59,1.66). The strong association between a Pentecostal background and religious ideation however, persists after adjustment for maternal church attendance (Model 2) and for maternal belief in God (Model 3). Once both of these maternal influences, young adult church attendance, and potential confounders were entered into a single model (Model 4), offspring of Pentecostal mothers are 4.5 times more likely to endorse both religious ideation items than those whose mothers were not affiliated with a religion in the prenatal period. Thus, a Pentecostal background makes a very strong contribution to religious ideation in young adulthood that is independent of maternal church attendance and belief in God, and

frequency of young adult church attendance. The similar pattern observed for offspring of mothers who refused to answer the religious affiliation suggests that these mothers are likely to have had strong ties to some religion and/or to hold strong religious beliefs.

Table 46: Independent associations between maternal religious affiliation and religious ideation in young adulthood

Maternal Religious affiliation	n	Religious ideation in young adulthood				
		% Case	Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No religion	453	4.6	1	1	1	1
Catholic	966	8.2	1.83* (1.12,3.00)	0.99 (0.59,1.66)	1.42 (0.85,2.37)	1.11 (0.63,1.98)
Anglican	968	5.6	1.21 (0.72,2.04)	1.12 (0.66,1.89)	1.04 (0.62,1.76)	1.25 (0.71,2.21)
Other Christian	708	15.8	3.87*** (2.39,6.26)	2.10** (1.26,3.48)	3.10*** (1.89,5.10)	1.42 (0.80,2.52)
Pentecostal	84	42.9	15.4*** (8.34,28.5)	4.73*** (2.45,9.15)	11.7*** (6.21,22.0)	4.50*** (2.07,9.77)
Other ^a	61	16.4	4.03** (1.80,9.04)	2.92* (1.26,6.79)	3.33** (1.47,7.52)	2.61* (1.01,6.75)
No answer	94	24.5	6.66*** (3.50,12.7)	3.02** (1.53,5.97)	5.09*** (2.64,9.82)	3.60*** (1.65,7.86)
Total	3334	10.0				

Reference group is no religious affiliation

* $P = < 0.05$ ** $P = < 0.01$ *** $P = < 0.001$

a: Includes non-Christian, and non-defined religions

Model 2: Adjusted for maternal church attendance

Model 3: Adjusted for maternal belief in God

Model 4: Adjusted for maternal church attendance, belief in God and education, young adult church attendance, and parents remaining together in young adulthood.

Total PDI scores

Since young adult belief in God, belief in a spiritual or higher power and a Pentecostal background were all found to be positively association with total PDI scores, multivariable logistic regression models were used to assess the independent effects from each of these factors. All of these results are shown in Table 47.

Firstly, the positive association between young adult belief in God and high total PDI scores strengthens after adjustment for non-traditional R/S beliefs (Model 2a), and after the addition of potential confounders into the one model (Model 3a). Those who believe in God are over twice as likely to have high total PDI scores as those who reject this belief. This

strong positive association is independent of non-traditional R/S beliefs and cannabis and other substance use. It also noteworthy that the association between being uncertain about believing in God and total PDI scores does not become statistically significant after adjustment for belief in a spiritual or higher power other than God (see Model 2a) as it did when belief in God was adjusted for cannabis use alone (reported in Table 29). Since cannabis use and other substance use are both negatively related to belief in God, while belief in a spiritual or higher power is positively related to both of these factors, the pattern observed in Table 29 for those who are unsure or believe in God would have been due to the effect from belief in a spiritual or higher power not being taken into account.

Table 47 shows that those who endorse non-traditional R/S beliefs are around 2.6 times more likely than those who reject this belief to have total PDI scores, after belief in God and potential confounders are taken into account (Model 3b). Thus, the independent contribution of belief in a spiritual or higher power other than God to high total PDI scores is only slightly higher than that observed for belief in God.

In regard to maternal religious affiliation Table 47 shows that after adjustment for belief in God (Model 2c), for belief in a spiritual or higher power other than God (Model 3c), and for both of these beliefs and potential confounders, offspring of Pentecostal mothers are 2.4 times more likely than offspring of mothers with no religious affiliation at entry to the study, to have total high PDI scores. Thus, a Pentecostal background makes a contribution to this outcome that is independent of traditional and non-traditional R/S beliefs, and other social factors.

Table 47: Independent associations between young adult beliefs, maternal religious affiliation and total PDI scores

Religiosity variable	n	High total PDI scores				
		%	Model 1	Model 2	Model 3	Model 4
		Case	Unadj OR	Adj OR ^{a,b,c}	Adj OR ^{a,b,c}	Adj OR ^c
			(95%CI)	(95%CI)	(95%CI)	(95%CI)
<i>Young adult belief in God ^a</i>						
No	815	9.0	1	1	1	-
Unsure	927	10.9	1.24 (0.90,1.71)	1.20 (0.86,1.68)	1.39 (0.98,1.98)	-
Yes	1592	13.8	1.63** (1.23,2.15)	1.80*** (1.36,2.40)	2.16*** (1.60,2.90)	-
Total	3334	11.8				
<i>Young adult belief in a spiritual or higher power ^b</i>						
No	1683	9.2	1	1	1	-
Unsure	834	8.2	0.87 (0.65,1.18)	0.97 (0.70,1.34)	0.96 (0.69,1.33)	-
Yes	817	20.9	2.61*** (2.06,3.30)	2.87*** (2.24,3.68)	2.57*** (1.98,3.37)	-
Total	3334	11.8				
<i>Maternal religious affiliation</i>						
No religion	453	10.8	1	1	1	1
Catholic	966	10.9	1.00 (0.70,1.44)	0.92 (0.64,1.32)	1.06 (0.74,1.53)	1.01 (0.69,1.47)
Anglican	968	13.1	1.24 (0.88,1.77)	1.20 (0.85,1.71)	1.29 (0.91,1.85)	1.30 (0.90,1.88)
Other Christian	708	10.0	0.92 (0.63,1.35)	0.84 (0.57,1.24)	1.00 (0.68,1.48)	1.01 (0.68,1.51)
Pentecostal	84	22.6	2.41** (1.33,4.35)	2.00* (1.10,3.64)	2.78** (1.52,5.09)	2.38** (1.27,4.46)
Other	61	9.8	0.90 (0.37,2.20)	0.84 (0.34,2.06)	1.03 (0.42,2.54)	0.99 (0.39,2.51)
No answer	94	18.1	1.82 (1.00,3.33)	1.63 (0.89,2.99)	1.95* (1.05,3.60)	1.73 (0.92,3.27)
Total	3334	11.8				

Reference group is never attends church

* $P < 0.05$ ** $P < 0.01$ *** $P < 0.001$

Model 2a : adjusted for belief in a spiritual or higher power

Model 3a: adjusted for belief in a spiritual or higher power, young adult cannabis and other substance use

Model 2b: adjusted for young adult belief in God

Model 3b: adjusted for belief in God, cannabis use and drug use, quality of neighbourhood, and parents remaining together in young adulthood

Model 2c: adjusted for young adult belief in God

Model 3c: adjusted for belief in a spiritual or higher power

Model 4c: adjusted for belief in God, belief in a spiritual or higher power, cannabis use, and parents remaining together in young adulthood

Summary of findings on young adult delusional ideation

The findings related to delusional ideation identify both young adult religiosity and religious background as being strongly connected to delusional ideation, albeit in contrasting ways (see Table 48 below). Young adult church attendance, as well as the churchgoing behaviour of mothers in their children's early years appear to have a strong influence on the sense of relationship young adults believe they have with God (religious ideation). However, there appears to be no relationship between weekly church attendance by either young adults or their mothers in their childhood years, and other delusional domains that are not directly related to religiosity, such as disturbed and suspicious ideation. By contrast, young adults who believe in a spiritual or higher power are much more likely than those who reject this belief, to have high levels of disturbed, suspicious, and paranormal ideation, as well as high total PDI scores. Pentecostal churches stand out as the only Christian affiliation under examination that is linked to high total PDI scores in young adulthood. The Church of England also appears to differ markedly from all other religious affiliation groups in that it is the only religious affiliation under study that is not linked to religious ideation in young adulthood.

Table 48: Summary of main findings for associations between young adult religiosity, religious background, and delusional ideation

Young adult religiosity	Main associations with young adult delusional ideation				
	Disturbed	Suspicious	Paranormal	Religious	Total PDI
Belief in God	Null	Null	Null	N/A	Positive
Belief in spiritual or higher power	Positive	Positive	Positive	Negative	Positive
Monthly or less church attendance	Null	Null	Negative	Positive	Null
Weekly church attendance	Null	Null	Null	Positive	Null
Religious background					
Maternal belief in God	Null	Null	Null	Positive ^a	Null
Maternal weekly church attendance	Null	Null	Null	Positive	Null
Religious affiliation	Null	Null	Null	Positive for: <i>Pentecostal</i> <i>Other Christian</i> ^b <i>Catholic</i> ^b	Positive for: <i>Pentecostal</i>
				Null for: <i>Anglican</i>	Null for: <i>Catholic</i> <i>Anglican</i> <i>Other Christian</i>

N/A: not applicable since belief in God was not examined for its connection to religious ideation

a: Confounded by maternal church attendance and mediated by young adult church attendance

b: Confounded by maternal belief in God and maternal church attendance

Finally, sensitivity analyses revealed that missing data for potential confounder variables did not bias the estimates reported throughout this section, except where specified in the discussion of particular results. All of the delusional ideation analyses were repeated with the exclusion of those young adults who had borderline thought problems in adolescence, with no reduction in effect being observed. Thus pre-existing thought disturbance in the adolescent period does not explain any of the significant associations observed between young adult religiosity or religious background, and any of the four domains of delusional ideation or high total PDI scores.

Section 4: Religiosity and antisocial behaviour

The following section reports on the findings from logistic regression analyses examining associations between both young adult religiosity and religious background, and externalising behaviour (a scale aggregating symptoms of intrusiveness, aggression and delinquency) among young adult females and males. A range of potential confounders were identified for these analyses (see Appendix H, Tables H1 and H2).

Young adult religiosity and antisocial behaviour

Young adult belief in God

From the unadjusted model (Model 1) in Table 49, it can be seen that females who believe in God appear to be significantly less likely than those who reject this belief to be antisocial in their behaviour, and that the negative association for those who are uncertain about God is not statistically significant. Adjustment for each of the factors identified as potential confounders, including young adult educational level (Model 2) and parents remaining together until adulthood (Model 3) makes little difference to the effect from female belief in God, although the statistical significance of this association changes from moderate to weak in Models 2 and 3. After adjustment for both of these factors in the one model (Model 4) young female adults who believe in God appear to have a 0.71 chance of reporting antisocial behaviour compared to those who reject this belief, with this reduced risk for antisocial behaviour being weakly significant.

A sensitivity analysis revealed however, that once females who had mean values substituted for missing potential confounder data were excluded from Model 5, the negative associations between being unsure about God and believing in God and externalising behaviour among females were both statistically significant (Unsure – adjusted OR = 0.69; 95%CI: 0.50,0.97 and Yes – adjusted OR = 0.67; 95%CI: 0.50,0.90). Missing values for the variable parents remaining together accounted for this change. Thus, it would seem that it is non-rejection of God that is more important than believing in God, in terms of having a reduced likelihood for antisocial behaviour among females.

Table 49: Traditional beliefs and antisocial behaviour among young adult females

Belief in God	n	Antisocial behaviour among females in young adulthood				
		% Case	Model 1	Model 2	Model 3	Model 4
			Unadj OR	Adj OR (95% CI)	Adj OR (95% CI)	Adj OR (95% CI)
No	375	27.7	1	1	1	1
Unsure	524	22.7	0.77 (0.56,1.04)	0.77 (0.56,1.04)	0.77 (0.56,1.04)	0.77 (0.56,1.04)
Yes	892	21.0	0.69** (0.52,0.91)	0.70* (0.53,0.92)	0.71* (0.53,0.94)	0.71* (0.54,0.94)
Total	1791	22.9				

Reference group is no belief

* $P = < 0.05$ ** $P = < 0.01$

Model 2: Adjusted for young adult education

Model 3: Adjusted for parents remaining together until adulthood

Model 4: Adjusted for young adult education, and parents remaining together until adulthood

By contrast, Table 50 shows that belief in God is unrelated to antisocial behaviour among young adult males, with no significant difference being observed between those who reject this belief and those who are either unsure, or do believe in God.

Table 50: Traditional beliefs and antisocial behaviour among young adult males

Belief in God	n	Antisocial behaviour among young adult males	
		% Case	Model 1
			Unadj OR (95%CI)
No	445	24.0	1
Unsure	417	22.1	0.89 (0.65,1.23)
Yes	727	19.7	0.77 (0.58,1.03)
Total	1589	21.5	

Reference group is no belief

Significance level set at $P = < 0.05$

Young adult belief in a spiritual or higher power

Non-traditional beliefs appear to place both females (Table 51) and males (Table 52) at greater risk for antisocial behaviour. Table 51 shows that young adult females who endorse a belief in a spiritual or higher power than other God are 1.76 times more likely to report high levels of antisocial behaviour than their non-believing counterparts (Model 1). There is little

change in this association after adjustment for quality of neighbourhood in young adulthood (see Model 2) or for parents remaining together until young adulthood (Model 3), or for both of these influences (Model 4). The repeating of Model 2, with the exclusion of those females who had borderline externalising behaviour in adolescence made no appreciable difference to this association (OR = 1.70; 95%CI: 1.28,2.25).

Table 51: Non-traditional beliefs and antisocial behaviour among young adult females

Belief in a spiritual or higher power	n	Antisocial behaviour among females in young adulthood				
		% Case	Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	792	19.2	1	1	1	1
Unsure	481	21.8	1.18 (0.89,1.55)	1.19 (0.90,1.58)	1.16 (0.88,1.54)	1.18 (0.89,1.56)
Yes	518	29.5	1.76*** (1.36,2.29)	1.72*** (1.32,2.23)	1.72*** (1.33,2.24)	1.69*** (1.30,2.19)
Total	1791	22.9				

Reference group is no belief

*** P = < 0.001

Model 2: Adjusted for quality of neighbourhood

Model 3: Adjusted for parents remaining together until adulthood

Model 4: Adjusted for quality of neighbourhood and parents remaining together until adulthood

Similar to the pattern observed for females, males who endorse non-traditional beliefs are almost twice as likely as those males who reject these beliefs, to report high levels of antisocial behaviour (Table 52). After adjustment for potential confounders of this association, including parents remaining together until adulthood (Model 2) and quality of neighbourhood (Model 3) and both of these variables simultaneously (Model 4), there is little attenuation of effect. After re-running Model 4 with the exclusion of males who had borderline externalising behaviour in adolescence, the change of effect is small (Adjusted OR = 1.79; 95%CI:1.29,2.48). This result suggests that the association between non-traditional R/S beliefs and externalising behaviour cannot be explained by young adult males with a predisposition towards antisocial behaviour being disproportionately attracted to non-traditional R/S beliefs.

Table 52: Non-traditional beliefs and antisocial behaviour among young adult males

Belief in a spiritual or higher power	n	Antisocial behaviour among young adult males				
		% Case	Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	904	18.4	1	1	1	1
Unsure	372	21.8	1.24 (0.92,1.67)	1.24 (0.92,1.67)	1.24 (0.91,1.68)	1.24 (0.91,1.68)
Yes	313	30.4	1.94*** (1.44,2.60)	1.89*** (1.41,2.54)	1.89*** (1.40,2.56)	1.86*** (1.37,2.51)
Total	1589	21.5				

Reference group is no belief

*** P = < 0.001

Model 2: Adjusted for parents remaining together until young adulthood

Model 3: Adjusted for quality of neighbourhood in young adulthood

Model 4: Adjusted for parents remaining together and quality of neighbourhood in young adulthood

Young adult church attendance

Church attendance on a monthly or less basis appears to have no relationship with externalising behaviour among females. However, weekly attendance is negatively and significantly associated with externalising behaviour (see Model 1, Table 53) prior to adjustment for the one potential confounder identified for this association. Following adjustment for parents remaining together over the course of the young adult's life (Model 2), this association fails to reach statistical significance. Thus, weekly church attendance among females appears to have no association with lower rates of antisocial behaviour, after the influence of their parents remaining together over the course of their lives is taken into account.

Table 53: Church attendance and antisocial behaviour among young adult females

Church attendance	n	Antisocial behaviour among females in young adulthood		
		% Case	Model 1	Model 2
			Unadj OR (95%CI)	Adj OR (95%CI)
Never	1368	23.5	1	1
Monthly or less	266	23.7	1.01 (0.74,1.37)	1.03 (0.76,1.41)
Weekly	157	15.9	0.61* (0.39,0.96)	0.66 (0.42,1.04)
Total	1791	22.9		

Reference group is never attends church

* $P < 0.05$

Model 2: Adjusted for parents remaining together until adulthood

Similar to the pattern observed for females, infrequent church attendance among males has no association with borderline externalising behaviour, but weekly church attendance is significantly associated with lower rates of externalising behaviour. However, unlike the results for females, Table 54 shows that males who attend church on a weekly basis are much less likely to report high levels of antisocial behaviour than those who never attend church, after adjustment for potential confounders, maternal age (Model 2) and parents remaining together across the young adult's life (Model 3). Once both of these factors are considered simultaneously (Model 4), this association remains moderately significant.

Table 54: Church attendance and antisocial behaviour among young adult males

Church attendance	n	% Case	Antisocial behaviour among males in young adulthood			
			Model 1	Model 2	Model 3	Model 4
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
Never	1209	22.7	1	1	1	1
Monthly or less	280	21.5	0.93 (0.67,1.29)	0.95 (0.69,1.32)	0.97 (0.70,1.34)	0.98 (0.71,1.37)
Weekly	120	9.2	0.34** (0.18,0.65)	0.35** (0.18,0.66)	0.35** (0.19,0.67)	0.36** (0.19,0.68)
Total	1589	21.5				

Reference group is never attends church

** $P < 0.01$

Model 2: Adjusted for maternal age

Model 3: Adjusted for parents remaining together until young adulthood

Model 4: Adjusted for maternal age and parents remaining together until young adulthood.

Religious background and antisocial behaviour in young adulthood

Similar to the findings related to anxiety/depression, religious background during the young adult's early life appears to have little connection to antisocial behaviour in young adulthood.

Considering maternal belief in God, Table 55 shows that rates of borderline externalising behaviour do not differ according to whether young adult females or males were offspring of a mother believed in God during the prenatal period. Maternal weekly church attendance too, seems to have no relationship with female externalising behaviour in young adulthood. However, a weak negative association is evident for males from their mothers having believed in God. Once adjustment was made for potential confounders, maternal age and parents remaining together until adulthood, this association failed to reach statistical significance (adjusted OR = 0.75; 95%CI: 0.53,1.06).

For the analyses related to maternal religious affiliation, the five-category religious affiliation variable was used. No significant associations are evident for borderline externalising behaviour for any of the religious affiliation groups for females or males. Thus, religious background, as assessed by maternal religiosity in the young adult's early years, appears to be unrelated to rates of borderline externalising behaviour in young adulthood.

Table 55: Religious background and antisocial behaviour among young adult females and males

Religious background	Antisocial behaviour in young adulthood					
	Females			Males		
	n	% Case	Unadj OR (95%CI)	n	% Case	Unadj OR (95%CI)
<i>Maternal belief in God at entry to the study</i>						
No/Don't know	353	22.7	1	322	23.0	1
Yes	1438	22.9	1.02 (0.77,1.34)	1267	21.2	0.90 (0.67,1.20)
Total	1791	22.9		1589	21.5	
<i>Maternal church attendance in early years</i>						
Never	1039	23.5	1	930	22.2	1
Monthly or less	423	24.8	1.08 (0.83,1.40)	348	24.4	1.14 (0.85,1.52)
Weekly	329	18.5	0.74 (0.54,1.01)	311	16.4	0.69* ^a (0.49,0.97)
Total	1791	22.9		1589	21.5	
<i>Maternal religious affiliation</i>						
No religion	229	20.1	1	223	23.8	1
Catholic	513	26.3	1.42 (0.97,2.07)	465	20.9	0.84 (0.58,1.24)
Anglican	533	21.6	1.09 (0.75,1.61)	449	23.6	0.99 (0.68,1.45)
Other Christian ^b	436	23.2	1.20 (0.81,1.78)	370	18.6	0.74 (0.49,1.10)
Other groups ^c	80	16.3	0.77 (0.39,1.52)	82	20.7	0.84 (0.45,1.55)
Total	1791	22.9		1589	21.5	

Reference categories: no belief; no church attendance; no religious affiliation

* $P = <0.05$

a: No longer significant after adjustment for maternal age and parents remaining together until adulthood

b: Includes Other Christian religions and Pentecostals

c: Includes non-Christians, those who refused to respond to the religious affiliation item, and non-defined religion

Independent associations between religiosity, religious background, and antisocial behaviour in young adulthood

Following the identification of positive associations between non-traditional R/S beliefs and antisocial behaviour, and the initial negative associations between traditional R/S beliefs (for females) and church attendance (for females and males) and this same outcome, the following section reports on the multivariable logistic regression analyses performed in order to determine the independent associations between these aspects of religiosity and antisocial behaviour in young adulthood.

Belief in God and antisocial behaviour among young adult females

Table 56 shows that after adjustment for young adult belief in a spiritual or higher power (Model 2) the negative association between belief in God and antisocial behaviour fails to reach statistical significance. However, the negative association between being unsure about believing in God becomes statistically significant. Adjustment for females' church attendance (Model 3) makes little change to the associations observed for infrequent and weekly church attenders in Model 1. A similar pattern emerges when adjustment is restricted to maternal church attendance (Model 4). Once all of these influences are taken into account, as well as potential confounders (Model 5), belief in God appears to have no relationship with externalising behaviour for females, while being unsure about God has a weak negative relationship. These results for the unsure and belief groups identify the complex relationship that can emerge when two different R/S beliefs are considered simultaneously, especially when one form of belief has a strong positive relationship, and the other a negative relationship, with an outcome of interest. These results suggest that once non-traditional R/S beliefs are taken into account, it is a non-rejection of God that reduces the risk for high levels of antisocial behaviour among females.

Table 56: Independent association between traditional beliefs and female antisocial behaviour

Young adult belief in God	n	Antisocial behaviour among females in young adulthood					
		%	Model 1	Model 2	Model 3	Model 4	Model 5
		Case	Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	375	27.7	1	1	1	1	1
Don't know	524	22.7	0.77 (0.56,1.04)	0.71* (0.51,0.98)	0.76 (0.56,1.03)	0.77 (0.56,1.04)	0.71* (0.51,0.98)
Yes	892	21.0	0.69** (0.52,0.91)	0.76 (0.57,1.01)	0.71* (0.52,0.96)	0.72* (0.53,0.96)	0.75 (0.55,1.03)
Total	1791	22.9					

Reference group is no belief in God

* $P < 0.05$ ** $P < 0.01$

Model 2: Adjusted for belief in a spiritual or higher power other than God

Model 3: Adjusted for church attendance

Model 4: Adjusted for maternal church attendance

Model 5: Adjusted for belief in a spiritual or higher power, young adult and maternal church attendance, young adult education, and parents remaining together until adulthood

Belief in a spiritual or higher power and antisocial behaviour among young adults

Findings from the multivariable logistic regression models used to determine the independent effect of non-traditional R/S beliefs on antisocial behaviour among young adult females is shown below in Table 57. Adjustment for belief in God (Model 2), for frequency of church attendance (Model 3), and maternal church attendance (Model 4) does little to attenuate the positive association between non-traditional R/S beliefs and antisocial behaviour among females. Once all of these factors are taken into account, as well as potential confounders of this association (Model 5), belief in a spiritual or higher power emerges as a strong independent predictor of externalising behaviour for females. Belief in God, young adult church attendance, and maternal church attendance in childhood appear to have little influence in moderating the effect on externalising behaviour from non-traditional R/S beliefs.

Table 57: Independent association between non-traditional beliefs and female antisocial behaviour

Belief in a spiritual or higher power	n	Antisocial behaviour among females in young adulthood					
		% Case	Model 1	Model 2	Model 3	Model 4	Model 5
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	792	19.2	1	1	1	1	1
Unsure	481	21.8	1.18 (0.89,1.56)	1.26 (0.93,1.72)	1.13 (0.85,1.52)	1.12 (0.85,1.50)	1.24 (0.90,1.71)
Yes	518	29.5	1.76*** (1.36,2.28)	1.78*** (1.35,2.34)	1.71*** (1.30,2.24)	1.71*** (1.32,2.23)	1.69*** (1.28,2.25)
Total	1791	22.9					

Reference group is no belief

*** $P < 0.001$

Model 2: Adjusted for belief in God

Model 3: Adjusted for church attendance

Model 4: Adjusted for maternal church attendance

Model 5: Adjusted for belief in God, church attendance, maternal church attendance, quality of neighbourhood, and parents remaining together in young adulthood

A similar pattern to that found for females is apparent for males in regard to the strong independent effect of non-traditional R/S beliefs on antisocial behaviour (see Table 58). After adjustment for belief in God (Model 2), frequency of church attendance (Model 3) and maternal church attendance (Model 4), males remain about twice as likely as those who do not endorse non-traditional R/S beliefs to report high levels of antisocial behaviour. Once all of these influences and potential confounders are entered into the one multivariable logistic

regression model (Model 5), there is only a slight reduction in the odds ratio from that observed in the unadjusted model (1.94 in Model 1 to 1.90 in Model 5). For males, belief in God appears to have a slight moderating influence over the effect from non-traditional beliefs on externalising behaviour, since adjustment for this belief alone led to a slight increase in the odds ratio for externalising behaviour (comparing Model 2 with Model 1).

Table 58: Independent association between non-traditional beliefs and male antisocial behaviour

Belief in a spiritual or higher power	n	Antisocial behaviour among males in young adulthood					
		% Case	Model 1	Model 2	Model 3	Model 4	Model 5
			Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
No	904	18.4	1	1	1	1	1
Don't know	372	21.8	1.24 (0.92,1.67)	1.33 (0.94,1.88)	1.16 (0.86,1.56)	1.20 (0.87,1.62)	1.28 (0.90,1.83)
Yes	313	30.4	1.94*** (1.44,2.60)	2.00*** (1.48,2.76)	1.90*** (1.41,2.55)	1.91*** (1.42,2.57)	1.90*** (1.39,2.59)
Total	1589	21.5					

Reference group is no belief

*** $P = < 0.001$

Model 2: Adjusted for belief in God

Model 3: Adjusted for young church attendance

Model 4: Adjusted for maternal church attendance

Model 5: Adjusted for belief in God, church attendance, young adult and maternal church attendance, quality of neighbourhood and parents remaining together in young adulthood

Church attendance and antisocial behaviour among young adult males

Since weekly church attendance was only found to be associated with externalising behaviour for males and not females (after adjustment for potential confounders), additional multivariable models were run to determine any change in effect for males once other dimensions of young adult religiosity were taken into account. As shown in Table 59, little change is observed after adjustment for non-traditional R/S beliefs (Model 2), or belief in God (Model 3), or maternal church attendance (Model 4). Once all of these factors are considered in the one model, along with potential confounders (Model 5), the association persists, although the statistical significance changes from moderated to weak. Thus, weekly church attendance among males makes a contribution to lower rates of antisocial behaviour that is independent of other R/S and social factors.

Table 59: Independent association between church attendance and antisocial behaviour among young adult males

Male frequency of church attendance	n	Antisocial behaviour among males in young adulthood					
		%	Model 1	Model 2	Model 3	Model 4	Model 5
		Case	Unadj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)	Adj OR (95%CI)
Never	1209	22.7	1	1	1	1	1
Monthly or less	280	21.5	0.93 (0.67,1.29)	0.98 (0.70,1.36)	0.98 (0.69,1.39)	0.95 (0.68,1.35)	1.08 (0.74,1.56)
Weekly	120	9.2	0.34** (0.18,0.65)	0.35** (0.19,0.67)	0.36** (0.19,0.70)	0.38** (0.19,0.75)	0.41* (0.20,0.82)
Total	1589	21.5					

Reference group is never attends church

* $P = < 0.05$ ** $P = < 0.01$

Model 2: Adjusted for belief in a spiritual power other than God

Model 3: Adjusted for belief in God

Model 4: Adjusted for maternal church attendance

Model 5: Adjusted for belief in God, belief in a spiritual power other than God, maternal church attendance and age, and parents remaining together until adulthood

Summary of findings on young adult antisocial behaviour

Table 60 below provides an overview of the main findings observed for young adult externalising behaviour. Belief in a spiritual or higher power other than God appears to be a strong independent predictor of antisocial behaviour in young adulthood for both females and males. Prior externalising behaviour does not appear to confound this association for either gender, which tends to undermine the notion that these effects are due to persons with a predisposition towards antisocial behaviour being more likely than others to adopt non-traditional R/S beliefs. Non-rejection of God appears to have a modest influence on antisocial behaviour for females rather than belief in God per se, since being unsure about believing in God had a weak negative association with externalising behaviour that persisted after other R/S and social factors were taken into account. For males, belief in God appears to be unrelated to externalising behaviour, whereas weekly church attendance is weakly associated with lower levels of antisocial behaviour.

Table 60: Summary table of main associations found between religiosity and young adult externalising behaviour

Dimension of religiosity	Indicator	Young adult externalising behaviour	
		Females	Males
<i>Young adult religiosity</i>	Belief in God	Negative ^a	Null
	Belief in a spiritual or higher power	Positive	Positive
	Weekly church attendance	Negative ^b	Negative
<i>Religious background</i>	Maternal belief in God	Null	Null
	Weekly maternal church attendance	Null	Negative ^c
	Maternal religious affiliation	Null	Null

^a No longer significant after adjustment for belief in a higher power, church attendance, maternal church attendance, young adult education, and parents remaining together until young adulthood

^b No longer significant after adjustment for young adult education and parents remaining together until adulthood

^c No longer significant after adjustment for maternal age and parents remaining together until adulthood

Finally, sensitivity analyses were conducted to ensure that the assigning of mean values for missing potential confounder data had not biased the estimates reported in this section of results. Little change of effect was observed for any of these analyses, except for those discussed earlier in this section in relation to belief in God and female externalising behaviour.

Chapter Seven: Discussion

This chapter discusses the current study's findings under eight main headings. The first five headings correspond to the main areas of interest in this thesis, including young adult religiosity, its link to religious background, and connections between young adult religiosity, religious background, and anxiety/depression, delusional ideation, and externalising behaviour respectively. The remaining three headings mark discussion about the characteristics of those who endorse non-traditional R/S beliefs, a summary of the overall findings, and finally, the limitations of the current study.

Young adult religiosity

Rates of church attendance observed among the young adult sample are consistent with previous findings derived from Australian data. The ABS (2004b) found that around 23.5 per cent of the Australian population aged 18 years and over, had attended church in the three months prior to survey in 2002 (according to GSS 2002 data), similar to the 23 per cent of young adults who reported attending church either regularly or irregularly at the time of the MUSP 21-year follow-up (between 2001 and 2004). The rate of weekly church attendance found among the young adult sample (8.0%) is also similar to the estimated 8.8 per cent weekly church attendance for the general population in Australia during 2001 (Bellamy & Castle, 2004).

The prevalence of traditional and non-traditional R/S beliefs deviates somewhat from that found from the *Australian Community Survey* (ACS) conducted between 1997 and 1998. The observed differences are likely due to the age of the MUSP sample, the fact that the sample is restricted to those born in Brisbane, Queensland, as well as the measures used in the ACS to assess R/S beliefs. The ACS questionnaires were administered to a national sample of people aged 15 years and over, with just 13 per cent of the sample being between aged between 15 and 25 years. The prevalence of R/S beliefs among the ACS sample is based on a single item, whereas the MUSP study included two separate measures of R/S beliefs. Among the current study sample, more of the young adults were found to endorse a belief in God (47.9%) than they did belief in a spiritual or higher power (24.5%), whereas the ACS found that belief in God was less common (33.0 %) than belief in "some sort of spirit or life force" (40.0%). The difference in the relative proportions of the current study and ACS samples who endorsed traditional and non-traditional R/S beliefs is likely to be attributable to a small or large extent on the inclusion of the phrase "other than God" in the item used in the current study to measure non-traditional R/S beliefs. The ACS data also revealed that 28 per cent of

the national Australian sample were either agnostic (17%) or did not believe in any sort of spirit, God or life force (11.0%). Approximately 15 per cent of the MUSP young adults were found to reject both traditional and non-traditional beliefs, and a similar proportion (15.2%) stated they were unsure about each of the beliefs under study (belief in God, and belief in a spiritual or higher power other than God) . Even though agnosticism and a response of “do not know” for a given belief do not amount to the same thing, it remains that similar results were found between these two studies in the proportion of the population who do not endorse either traditional or non-traditional R/S beliefs. The *ACS* data also indicates that 13 per cent of Australians in 1997/1998 reported that they engaged in personal prayer, 9 per cent practiced Eastern meditation, and 7 per cent engaged in psychic healing or used crystals. In the current study, the religious activities item was framed in such a way as to include “prayer, religious rituals, etc”. It is likely that the proportion of the current study sample who reported engaging in some sort of religious activities includes New Age and Eastern practices, as well as prayer. However, it is impossible to draw any comparison between the 35.2 per cent of the young adult sample who reported that they engage in either prayer or other religious ritual or activity (92.0% of churchgoers and 17.6% of non-churchgoers) and the rates of prayer, meditation, psychic and crystal healing reported by the *ACS*. The categories of religious activities considered by the *ACS* are not mutually exclusive and appear to have restricted the range of religious activities that respondents were able to endorse. The prevalence of non-traditional R/S beliefs found among the MUSP sample (24.5%) is fairly similar to the finding by Arnett and Jensen that 29.0 per cent of a young adult sample in the United States described themselves as having a non-religious belief in God, in spirituality, or individualised beliefs borrowed from witchcraft, Eastern religions, and popular culture.

Together, the above discussion identifies the young adults in the MUSP sample as engaging in religious services at a rate that is similar to that of the Australian population, and as having a prevalence of non-traditional R/S beliefs that are similar to a young adult sample in the United States.

Religious background and young adult religiosity

Research question (1) aimed to determine links between young adult religiosity and religious background. The main findings indicate that both maternal belief in God and maternal church attendance are strongly associated with offspring belief in God and weekly church attendance in adulthood, and that these same factors appear to discourage the uptake of non-traditional R/S beliefs. Maternal belief in God and church attendance are both

connected to young adult uncertainty about God as well. Young adults who are uncertain about the existence of a spiritual or higher power other than God are just as likely to be offspring of mothers who believed in God as they are to be offspring of a mother who did not believe in God in their early years. Thus, while there is continuity in the religious beliefs and churchgoing behaviour of mothers and their offspring, discontinuity is also evident. The findings suggest that mothers' religious beliefs and involvement with church organisations also predict their offspring's tendency to question the existence of God and being open to the possibility that the divine is not God, but some sort of spiritual or higher power once they reach adulthood. This discontinuity between mother and child may well reflect population trends over recent decades. Observed declines in participation in religious services among most Christian denominations in Australia (while attendance at Charismatic churches have increased) suggest the questioning of the relevance of mainstream Christian teachings and practices by substantial numbers of the population. A proportion of the study mothers who believed in God in the early 1980s may well have begun to re-assess of the legitimacy of Church doctrine and authority, with this in turn influencing their offspring to question the notion of God and consider possible alternatives. In considering the influence of maternal belief in God and church attendance on R/S beliefs in adulthood, it also needs to be borne in mind that even though maternal belief in God and church attendance were found to be strong predictors of young adult belief in God, the odds ratios reported in Chapter Six that relate to these influences, are based on comparisons with young adults with no R/S beliefs, who report never attending church services, and those whose mothers rejected the notion of God, and who did not attend church services during the young adults' early lives (reference groups). It is therefore worth noting that nearly half of all offspring of mothers who believed in God at entry to the study reported that they were either unsure (26.0%), or did not believe in God (20.5%), and that two fifths of offspring whose mothers attended church infrequently, stated that they were either unsure (25.7%), or did not believe in God (19.1%), once they reached adulthood. The general trend away from a traditional religious orientation that has been observed in numerous Western nations is evident among the MUSP sample, since around 80 per cent of the mothers of the young adult sample reported that they believed in God in the early 1980s, while less than half of all their young adult children reported believing in God in the early 2000s. In addition, one can only speculate as to whether a proportion of mothers might have held non-traditional R/S beliefs (that is, in a spiritual or higher power or some alternative belief) at the time the MUSP study commenced. These mothers may have made a decision to endorse a belief in God when completing survey forms administered at that time,

because no alternative R/S belief option was provided. Had the belief in a spiritual or higher power item that was included in the young adult questionnaire been presented to mothers at entry to the study, continuity or discontinuity between mother and offspring in regard to non-traditional R/S beliefs might have been detected.

The findings related to maternal religious affiliation indicate that influences linked to religious doctrine and practices may be strongest for young adults raised by mothers affiliated with one of the Pentecostal churches at entry to the study. This particular group are set apart from other affiliation groups in terms of being more likely than the reference group to endorse traditional R/S beliefs, reject non-traditional R/S beliefs *and* attend church on a weekly basis in young adulthood. The strong emphasis placed on personal experience of the Holy Spirit within Pentecostal churches, as evidenced by their practice of speaking in tongues, may have long-term effects on children exposed to these particular beliefs and practices, such that they are much more likely to be committed to religion and to maintain a belief in God into adulthood. By contrast, offspring of Anglican mothers appear to be no different to those raised in no religion in terms of endorsing non-traditional R/S beliefs and attending church on a weekly basis in young adulthood. This may reflect the more liberal approach taken by the Anglican Church to religious orthodoxy. Offspring of Catholic mothers on the other hand, are less likely than offspring of unaffiliated mothers to endorse non-traditional R/S beliefs and more likely to attend church on a weekly basis in adulthood – again, no doubt influenced by the doctrine of the Catholic Church. However, offspring of Catholic and Anglican mothers share the same tendency to be unsure whether they believe in God, indicating that young adults exposed to Catholic and Anglican doctrines are more prone to question the existence of God than those born to mothers with no religious affiliation. Offspring of Anglican and Catholic mothers are also just as likely as offspring of mothers with no religious affiliation, to consider the possibility of the divine being something different to the idea promoted by traditional Church doctrine (being unsure about believing in a spiritual or higher power other than God). Since the sample of non-Christians in this study was small, and their attrition rate was higher than all other religious affiliation groups, caution needs to be exercised when interpreting the findings related to this group. It does appear however, that offspring of non-Christian mothers tend to be more likely to maintain traditional R/S beliefs and to reject non-traditional R/S beliefs in young adulthood, than offspring of mothers with no religious affiliation during the prenatal period. Overall, it would seem that offspring of mothers affiliated with one of the Pentecostal churches are the most likely, while offspring of Anglican mothers are the least likely, to maintain a traditional religious orientation into adulthood.

In combination, the study findings suggest a complex pattern of continuity and discontinuity between mother and child in relation to religiosity, and also suggest that attention to religious background is important for understanding patterns of traditional and non-traditional R/S beliefs and church attendance in young adulthood.

Anxiety/depression in young adulthood

In answering research question (2), measures of traditional religion including traditional R/S beliefs, church attendance, and religious background all appear to have no association with young adult anxiety/depression, while non-traditional R/S beliefs are positively associated with this outcome. The implications of the lack of associations between young adult traditional R/S beliefs and church attendance, and anxiety/depression warrant attention prior to discussion of the positive associations found for non-traditional R/S beliefs.

The findings from this study suggest that for a large normal sample of young adults born in Brisbane, aged between 18 and 24 years, traditional R/S beliefs and involvement in religious services measured cross-sectionally, are not associated with either a decreased or increased likelihood of anxiety/depression. The notion that traditional religion is “bad” because it represents a hindrance to freedom of expression and freedom of choice is somewhat undermined by this finding. If this argument was sound, one would expect to find at least some evidence of higher rates of anxiety/depression among young adult churchgoers compared to non-churchgoers. The counter argument that traditional religion is “good” because it provides a buffer from stressful circumstances in day-to-day life is also unsupported by this study’s findings. For the current sample, there is no evidence of any overall “harm” or “benefit” to those young adults who either maintain a traditional belief in God, or attend church on a weekly or less frequent basis in relation to anxiety/depression. This study’s findings are similar to other Australian studies. Francis and Kaldor (2002) for example, found no differences in negative affect for either belief in God or church attendance. The findings differ however, from those derived from overseas studies, including four studies conducted between 1951 and 1984 and reviewed by Gartner (1996), 24 studies (spanning 1984 to 1999) identified in the review by McCullough and Larson (1999), and the more recent study by Baetz et al. (2004). All of these studies showed frequency of church attendance (or religious commitment) as having a negative association with depression. There are several possible reasons for the difference between this study’s findings and those obtained by these other studies.

Firstly, this study relies on a summed score of symptoms of both anxiety and depression

while other studies have focussed their attention on depression. This could explain the discrepancy in results. However, the idea that anxiety is distinct from depression remains controversial. Primary care physicians report a high incidence of patients having symptoms of both anxiety and depression, and the ICD-10 (World Health Organization, 1993) includes mixed anxiety and depression as a distinct category of mental disorder (Leibowitz, 1993).

Secondly, apart from the issue of disorder classification, consideration needs to be given to the comparability of findings from studies undertaken from the 1950s to the early 1990s and those undertaken in recent years. The religious landscape appears to have altered to such an extent in the past couple of decades that one can only speculate about the relevance of evidence gathered when levels of church attendance and religious affiliation were much higher than they are now. Of course, part of the reason that reviews of the literature on religion and spirituality rely on evidence from studies gathered more than 20 to 50 years ago is that both religion and spirituality have received comparatively little empirical attention within health research.

Thirdly, the relative paucity of research into religion, spirituality and mental health in general (compared with that directed towards health-related behaviours, socioeconomic status, genetic influences and so on) means that comparison of the current findings with those found in previous studies is extremely problematic. Since previous studies involve very different sampling frames, methodologies, and socio-cultural contexts – “apples” end up being compared with “oranges”. In regard to sampling frames for example, the recent study by Baetz et al. (2004) involved a Canadian population sample of 18 years and over, whereas the study by Schapman and Inderbitzen-Nolan (2002) involved American youth aged between 13 and 18 years. The former found a negative relationship between frequency of church attendance and depression. The latter observed no association between either attendance at church, or religion classes, and depression, but did find that a negative correlation between church and religion class attendance and trait anxiety. Within the current study, findings are based on a combined measure of anxiety and depression and a sample ranging from 18 to 24 years of age, with no differences being found in anxiety/depression among young adults for either belief in God or frequency of church attendance. Thus, discrepancies in findings between studies may reflect differences in age of the samples under study, sampling frames, socio-cultural factors, and the measures used to assess levels of depression. However, despite the difficulties encountered when comparing results between studies, this study’s findings raise the question of whether traditional religion has any capacity to alleviate or prevent anxiety and depression among young adults in today’s societies.

Religiosity may have become such an individualised affair for young people, that involvement with religious organisations or traditional religious beliefs offer no real buffers from anxiety and depression, and thus their levels of anxiety/depression mirror those who have a secular orientation. Durkheim's belief that involvement in the activities provided by religious organisations afforded individuals mental health benefits, by promoting social integration, and encouraging a sense of identification with a social group and group solidarity, may no longer apply in a contemporary setting. Arnett's and Jensen's (2002) observation that religion has become a "congregation of one" for young people in the United States may well be applicable to young Australian adults. Moreover, numerous aetiological factors have been identified in relation to anxiety/depression. If religious organisational membership no longer provides young adults with a real sense of group solidarity or identification with a particular religious group, it is plausible that their risk for anxiety and depression is no different to that of non-churchgoers.

The findings from this study also suggest that what has been interpreted as "beneficial effects" from religiousness among the mentally and physically ill in relation to depression and anxiety (Corrigan, McCorkle, Schell et al., 2003), and from religiousness/spirituality in regard to depression (Baetz, Larson, Marcoux et al., 2002; Koenig, Cohen, Blazer et al., 1992; Tebbi, Mallon, Richards et al., 1987; Tepper, Rogers, Coleman et al., 2001) might be restricted to those who have significant health problems and thus not extend to normal populations. It is plausible that the "beneficial effects" on depression observed in these studies are due to a heightened focus on religious and spiritual matters and a greater commitment to R/S beliefs and practices as a way of coping with debilitating or terminal conditions; with these providing some sense of hope and meaning that science is unable to provide at times of personal crisis. In cases where negative associations have been observed between religiousness/spirituality and depression in cross-sectional studies, observed effects might rest on the circumstance that people who are severely depressed tend to state that they are not religious or spiritual, or that these dimensions are not important to them, *because* of their depressed state. It is possible that they had a religious and/or spiritual faith prior to their depression, and this loss of faith is symptomatic of their depression.

In stark contrast to the null associations observed for traditional R/S beliefs and church attendance, non-traditional beliefs have been found in this study to be positively associated with anxiety/depression for both females and males. Prior anxiety/depression (in adolescence) was found to account for the association between non-traditional R/S beliefs and anxiety/depression for males. This suggests that anxiety/depression may well lead males to

adopt non-traditional R/S beliefs. However, prior anxiety/depression did not explain this association for females. These findings may provide some insight into the somewhat curious findings by Baetz et al. (2004) showing that self-descriptions of being “very religious/spiritual” were positively related, while church attendance was negatively related, to symptoms of depression among Canadians. The current study’s differentiation of traditional from non-traditional beliefs has allowed investigation into levels of anxiety/depression according to two contrasting forms of “religiousness/spirituality”. The differences found between these two forms of religiosity suggests that it might be those within the Canadian population who tend towards non-traditional forms of religiousness/spirituality, who account for the higher levels of depression among the proportion of the Canadian sample who described themselves as being “very spiritual/religious”. Since Baetz and colleagues used logistic regression analyses and did not rely on correlations between measures of depression and being religious/spiritual, differences in outcome were detectable for the “very spiritual/religious” group. No differences were observed between those who agreed that they were “moderately spiritual/religious” and those who reported being “not at all spiritual/religious”. It may be that the term “very spiritual/religious” is more likely to be endorsed by those whose beliefs are aligned with the New Spirituality, and that those who maintain a traditional approach to spirituality/religiousness are more moderate in the way they describe their level of spirituality/religiousness. Given that a proportion of people are known to have a negative reaction to the term religion, and others to the term spirituality, the placing of spirituality before religiousness (or vice versa) in survey items may influence the way some respondents answer these types of questions. Had the term “religiousness” been placed before the term “spirituality” in the survey item used in this study, a different pattern of results may have emerged. This possibility, as well as the fact that Baetz and colleagues found that those who reported weekly church attendance had lower levels of depression, provides support for the view that single measures of religiousness/spirituality serve to mask differences in outcome that might arise from different R/S orientations.

The current study’s findings for non-traditional R/S beliefs and anxiety/depression contradicts the finding by Kaldor and colleagues (2004) in their study of Australians, that there was no difference in mental health from a summary measure of mental health status between those classified as having a traditional religious orientation and those categorised as having alternative spiritual or secular orientations. However, it needs to be borne in mind that Kaldor et al. (2004) speculated that the summary measure of mental health included in the SF12 (Ware, Kosinski, & Keller, 1996), which was used to assess mental health in their study,

may be inadequate to the task of assessing differences in mental health; whereas the current study used measures that directly assess symptoms of anxiety/depression. The age ranges and sampling frames also differ between these two Australian studies, with the former relying on a national Australian sample aged 15 years and over, and the MUSP sample being restricted to a large group of 18 to 24 year olds born in Queensland. Even though Kaldor and colleagues (2004) failed to find differences in mental health according to different R/S orientations, they did observe that a Buddhist/New Age orientation and psychic involvement were negatively correlated with satisfaction with life and a sense of security. They also found that those with these kinds of alternative approaches to spirituality had higher levels of optimism, purpose in life, and a sense of control. While together, these particular findings concerning the Buddhist/New Age orientation may appear to be contradictory, they seem to indicate that self-perceived sense of purpose and sense of control (aspects strongly promoted by the philosophical underpinnings of the New Spirituality) do not translate to higher levels of satisfaction with life, or a greater sense of security, compared to those who have a more tradition-oriented form of religiosity. The results from the current study tend to support these latter findings, by indicating that beliefs aligned with the New Spirituality might be causally linked to symptoms of anxiety and depression among females. It may be that the a-social orientation of the New Spirituality undermines mental and emotional wellbeing.

The a-social orientation of non-religious varieties of spirituality can be conceived as having the potential to negatively influence mental and emotional wellbeing in a number of ways. Firstly, there is no continuity between the religious tradition of family, and ancestors, as well as country of origin, and the beliefs and practices associated with the New Spirituality. This discontinuity may tend to create a form of dispossession – a loss of connection with the culture of one's origins. Even if individuals have one or more family members, relatives, or grandparents, or other ancestors whose beliefs and/or practices are aligned with those that are encompassed by the New Spirituality, the eclectic nature of the New Spirituality and thus its lack of affinity with any set of religious or national traditions, necessarily creates a form of cultural dissonance. Secondly, it is possible that with the onus of responsibility being placed on the individual within the New Spirituality, to achieve health, prosperity, and enlightenment for themselves, as well as the promise that this is possible, actually serves to promote the development of anxiety and depression when these impossible objectives fail to be met. While those with a traditional religious orientation have the opportunity to perceive life's troubles as either God testing the virtuous, or a temporary stage of earthly suffering prior to achieving ultimate peace and salvation in the after-life, and those with an atheistic orientation can

explain their problems in purely scientific and objective terms, the New Spirituality approach offers no such comfort or exemption from blame. This approach emphasises the individual as needing to become aligned with the universal “spirit” or “power” in order to achieve physical, emotional, mental and spiritual health, prosperity and wellbeing. The ability or inability to achieve these aims inevitably rests with individuals themselves and may lead them to feel despondent, to conceive themselves as “failures”, and to feel alienated from others.

There appears to be no evidence supporting the view that those with a non-traditional spiritual orientation lack social support, raising doubts that lack of social support is a plausible explanation for higher levels of anxiety/depression among those with non-traditional beliefs. The study by Corrigan et al. (2003) for example, found that those who saw “themselves as part of a larger spiritual force” had higher scores on *objective* measures of social inclusion than those with a religious orientation (based on “those participating in a community of people who gather around common ways of worshipping”). Numerous authors have also observed that those who align themselves with spirituality and not religion, tend to be involved in multiple group activities (Heelas, 1993; Roof, 1993; Woodhead, 1993; Zinnbauer, Pargament, & Scott, 1999). Even though individuals who embrace beliefs and practices associated with the New Spirituality might have extensive social interactions, with various individuals or groups of individuals being available to give material and/or emotional support, these forms of support may do little to alleviate a sense of personal failure or guilt. Indeed, fellow like-minded individuals may even reinforce the idea that anxious and depressed individuals are personally responsible for their circumstances. This possibility warrants empirical attention. Moreover, anxiety and depression among those who opt for a non-traditional R/S worldview might not arise from difficulties per se, but simply from the sense of isolation that comes from believing that one is on a “solitary journey”. This perception may mean that fellowship and interactions with others have no real value or importance in an ultimate sense. The lack of fixed norms, values or beliefs that are shared with others may create an obstacle to individuals gaining a feeling of belongingness and self-perceived status as an integral part of any particular group. In essence, this constitutes a social alienation “of the mind”. This explanation is consistent with Durkheim’s view that “magic” represents the beliefs and practices of those without a “real” religion or a “Church”, and lacks the capacity to “bind people together”. The words of one of Possamai’s (2000:369) New Age informants seems to encapsulate the potential for New Age beliefs to undermine a sense of group unity and solidarity and to set individuals apart from one another -“Because we’re all different, we’re all at different stages and we’re looking for different things”.

Religious conversion may also be at issue here. The findings raise the question of whether or not the group who believe in a spiritual or higher power other than God have higher levels of anxiety and depression than those who reject this belief, because of inner conflict related to their “conversion” to a non-traditional R/S orientation, from either having a non-religious background or having been affiliated with some religion or other in their developing years. This relates back to previous discussion about discontinuity between non-traditional forms of religiosity and the traditional religious orientation of one’s family and ancestors. The study by Spellman and colleagues (1971) indicates that converts have higher levels of anxiety than either regular church attenders or those categorised as having no religion, giving support to the argument by Beit-Hallahmi (2001:52-53) that religious conversion represents an attempt to “cope with reality” and is thus indicative of inner turmoil. Simmel’s “conflict of modern culture” also seems poignant, since he argued that the loss of faith in religious doctrine has steered people towards mysticism as a means to satisfy the religious urge. This loss of faith is exemplified by the shift away from traditional religious conceptions to alternative conceptions of the divine. The consequences of this undermining of faith may persist, regardless of the beliefs that might be adopted to revive, renew, or reinvigorate faith in something beyond the mundane. Indeed Possamai (2000:367) observed that New Agers appear to experience tension and conflict during their visits to diverse New Age and non-New Age groups like “born again” Christian, transcendental meditation, and Scientology groups, because they “want to find their own subjective religion”. Possamai (2000:367) also found that New Agers tend to deride any form of perceived dogmatism. This tendency to be suspicious of any authority outside the self may lead to an undermining of trust of any organisation or individual and thus give rise to a sense of social isolation. The possible repercussions for mental health and wellbeing from a general mistrust of others and the sense of social isolation this may engender are obvious if considered in Durkheimian terms.

The science-driven society in which we now live de-emphasises the social, with biological and genetic influences being used to explain human thought, behaviour, illness, death and everything in between. The social thus appears to play little part in individual wellbeing within a biomedical framework, apart from its role in producing “environmental triggers”. An individual’s genetic make-up, attitude, beliefs, and health-related behaviours are constantly being promoted as the main determinants of morbidity and mortality, with modifications to all of these aspects being emphasised as being the means by which population health can be improved. Parallels can be drawn between this individualistic approach to health and wellbeing and the individualistic approach that is characteristic of the

New Spirituality. It too regards an individual's own beliefs, attitudes, and behaviours as being the main determinant of his or her capacity to achieve physical, mental, emotional and spiritual wellbeing. It seems hardly surprising therefore, that people have continued to move away from socially-oriented religions to new religious forms that emphasise an individualistic approach – an approach that is fundamentally in keeping with that promoted by science, despite the fact that new religious forms and science diverge in the means and methods each employs for the attainment of health and wellbeing.

Apart from the science-driven nature of society, its market-driven orientation has created the opportunity for everything to be commodified; spirituality, self-realisation, self-enlightenment, self-fulfilment, self-actualisation, and prosperity are all “products” being bought and sold in the “spiritual” marketplace. One or more, or all of these commodities are promoted by countless New Age/Human Potential entrepreneurs as being accessible and achievable through the various techniques, products, and “how-to” approaches they “sell” in seminars, workshops, books, audio-visual media and other materials. In essence, the New Age and Human Potential movements have succeeded in marketing personal happiness, fulfilment, and wellbeing as something that is transferable from entrepreneur to consumer via a simple financial transaction – as long as individuals put these techniques and ideas into practice.

Even though pre-existing anxiety/depression (in adolescence) was found to explain the association between non-traditional beliefs and anxiety/depression in adulthood for males, this was not the case for females. While the lack of connection between prior anxiety/depression and belief in a spiritual or higher power for females tends to suggest the possibility of a causal association between non-traditional R/S beliefs and anxiety/depression, it is possible that anxiety and depression that develops during the transition between adolescence and young adulthood lead some females to adopt non-traditional R/S beliefs. The disenchanted may well be drawn to belief in a spiritual of higher power other than God because it frees them from the constraints imposed by religious doctrine, dogma, and authority, does not exclude anyone on the basis of religion or other characteristics, and provides a framework of belief that gives consideration to both human and environmental concerns. The notion that humankind has the right of “dominion” over the natural world – a central teaching within Christianity – is rejected outright within the New Spirituality – all things living and non-living are viewed as reflecting an underlying and “connected” spiritual reality. It would seem no coincidence that religions that emphasise the notion that the natural environment and human wellbeing and existence are inextricably linked (such as pagan religions, native religions, deep ecology, and so on) are gaining increasing numbers of

adherents at a time when numerous environmental crises are being faced at a global level. It may be that the higher levels of anxiety/depression found among those who endorse non-traditional R/S beliefs are due to them being more concerned about, or more worried by, problems such as global warming, extinction of species of flora and fauna, environmental pollution, and so on. This possibility warrants further research attention.

Further evidence that the wellbeing of those who have taken up non-traditional R/S beliefs differs from those who do not endorse these beliefs comes from the findings related to delusional ideation.

Delusional ideation in young adulthood

In relation to research question (3), many differential relationships were observed between young adult religiosity, religious background, and delusional ideation in young adulthood. The findings that belief in God and church attendance in young adulthood, as well as religious background have no associations with disturbed ideation, suspiciousness, and paranormal (and grandiose) ideation, suggest that traditional R/S beliefs and active involvement with religious organisations have little to do with these particular domains of delusional ideation in young adulthood.

The completely different pattern that emerged for non-traditional R/S beliefs raises specific concerns about the extent that beliefs which are associated with the New Spirituality might influence individuals' thought processes in a negative way, or alternatively, the degree that those who embrace non-traditional R/S beliefs are attracted to these beliefs as a consequence of negative experiences, or a tendency towards both idiosyncratic and disturbed beliefs. As might be anticipated, those who believe in a spiritual or higher power other than God were found to be around four times more likely than non-believers to score in the upper decile for paranormal/grandiose ideation; since the items included in this domain are directly related to beliefs promoted within the New Spirituality. While the item that measures belief in voodoo, witchcraft and the occult is likely to capture those who subscribe to New Age beliefs, so too is the item measuring the belief that one is somehow "special". New Age philosophy encompasses the idea that people can tap into universal energies to achieve any personal aim. No intermediaries are necessary. According to this view, each individual has direct access to the power of the universe. Bearing in mind also that the study by Stifler and colleagues (2005) found that members of contemplative/spiritual groups had elevated narcissism scores compared to normal subjects (hospital staff), the finding that a non-traditional approach to the divine is strongly linked to both paranormal and grandiose beliefs about oneself supports the

view that a mystical approach and narcissism are intertwined. It may be that the predominant focus on transformation of self among those with a “non-religious and spiritual” mindset leads to excessive “navel-gazing”; therefore, reinforcing a concern for self and the importance of self compared to others.

Most interesting is that those who do not reject non-traditional R/S beliefs and who report that they are unsure if they believe in a spiritual or higher power other than God, are also at increased risk for paranormal/grandiose ideation, though the likelihood for this type of ideation is much lower than for those who actually endorse non-traditional R/S beliefs. This finding suggests the importance of differentiating those who reject a given belief from those who demonstrate uncertainty about whether they reject or endorse that belief. Approaches that group together non-believers and those who are unsure about a belief in a single category may mask differences in outcome for these two groups. This particular finding suggests that those who do not reject non-traditional R/S beliefs outright also have a tendency towards belief in the supernatural and that they are somehow “special”. The finding that those who endorse non-traditional R/S beliefs have low levels of religious ideation is not surprising, since the majority of those who endorse non-traditional R/S beliefs tend to be either unsure about believing in God or reject this belief outright.

The above mentioned results share similarities to Saucier’s and Skrzypinska’s (2006) findings that those categorised as being aligned with “subjective spirituality” (a mystical approach to the sacred) are distinct from those who are traditionally religious, and supports their argument that single measures of religiousness/spirituality fail to capture these two distinct dispositions.

Most noteworthy however is that those endorsing non-traditional R/S beliefs were found to be twice as likely to score in the upper decile for disturbed ideation, and around 1.5 times as likely to do likewise for the domain of suspiciousness, as those who reject non-traditional R/S beliefs. These particular findings suggest that this group, whose beliefs are clearly identifiable as being bound up with New Age philosophy (as demonstrated by their high paranormal/grandiosity scores) are more disturbed and suspicious or paranoid in their thinking than those who reject these beliefs. Even though cannabis use and use of other substances were each found to be related to belief in a spiritual and higher power, and to disturbed and to suspicious ideation, statistical adjustment for these influences had little effect on the observed associations. Pre-existing thought problems did not explain the association between disturbed and suspicious ideation either. It would therefore seem that non-traditional beliefs may encourage the development of disturbed and paranoid thoughts. It is also plausible

however, that the development of disturbed thoughts in between adolescence and adulthood are involved here.

Young adults who endorse non-traditional R/S beliefs may be more concerned about, or worried by, thoughts that the world might end (one of the items that loaded under the disturbed ideation factor) because of global environmental problems and/or warfare. “Green” issues and the threat of nuclear extinction are topics of concern for those who embrace New Age spirituality (see Raschke, 1996). However, belief that the world might end represents just one of three items that individuals needed to endorse in order for them to score in the upper decile of disturbed ideation. Other disturbed ideation items that this group may have endorsed (“having no thoughts in your head at all”, thoughts feeling “alien in some way”, thoughts being “so vivid that you were worried other people would hear them”, thoughts being “echoed back to you”, and “feeling like a robot or zombie without a will or your own”) may reflect their belief in having experienced telepathic communication and/or a tendency towards dissociative experiences. Saucier and Skrypinska (2006) found that the mystically inclined have more dissociative experiences than those with a traditional religious orientation. It may also be that believers in a spiritual or higher power other than God have higher levels of suspicious ideation because they have had more negative experiences than those who reject these beliefs, such as victimisation, loss, grief, or betrayal by others, during the transition period from adolescence to adulthood. Their high scores for suspiciousness could potentially reflect these kinds of negative experiences. However, neither parental separation (or divorce or parental death), substance use, nor problem neighbourhoods were found to attenuate the effect observed for suspicious ideation for believers in a spiritual or higher power other than God. Thus, there seems little evidence to support the hypothesis that those with non-traditional R/S beliefs have higher levels of suspicious ideation because of substance use, or personal trauma. It would seem more likely that the high levels of suspicious ideation among those who endorse non-traditional R/S beliefs are linked to the tendency of those who subscribe to New Age thought to be suspicious of any authority other than their own (Possamai, 2000; Woodhead, 1993). The “anti-establishment” orientation of those who endorse a non-traditional conception of the divine, brought about by disenchantment with mainstream authority, may extend to other people and the world in general, leading to perceptions that these all pose various kinds of threat to personal security and wellbeing. This tendency towards suspiciousness may therefore carry over to this group’s social relationships in general, thereby explaining their higher levels of suspicious ideation.

Religious background, and traditional R/S beliefs and church attendance in young

adulthood were all found to have no association with disturbed ideation, suspiciousness and paranormal (and grandiose) ideation (though infrequent church attenders were found to have lower rates of paranormal ideation). The lack of associations found between paranormal ideation and belief in God, weekly attendance at religious services, or religious background is especially interesting. This suggests that beliefs in the paranormal and in being “special or unusual” do not differ according to whether or not the young adults in this study believe in God, attend church services regularly, or have a religious or non-religious background.

The higher odds ratios observed for religious ideation among those young adults who attend church regularly, and whose mothers were religiously affiliated (with the exception of Anglican mothers) is consistent with findings from previous research in which religious ideation has been linked to higher levels of religious activity (Getz, Fleck, & Strakowski, 2001). Remembering that scoring in the upper decile of religious ideation required that young adults endorsed both of the two items used to assess this form of ideation (that they felt “especially close to God” and that they had “been chosen by God in some way”), it is not surprising that those with a strong religious and/or spiritual faith would endorse both of these items. Religious ideation may well be an indicator of religious fervour rather than a measure of ‘delusional’ thinking, although it remains unclear whether religious fervour itself predisposes individuals to subsequent psychosis. Of particular interest however, is that offspring of mothers affiliated with one of the Pentecostal churches have the highest odds ratio for religious ideation, followed by offspring of those mothers who refused to answer the religious affiliation item. These findings provide further support for the view that exposure to Pentecostal religions during the developing years has long-term effects, as suggested by the strong tendency of this group to endorse a belief in God and to attend church in young adulthood. Moreover, the high odds ratio for religious ideation among this group identifies them as having very strong religious beliefs, with God being central to their self-identities. The high odds ratio observed for the “refused to answer” group suggests that mothers who refuse to answer a religious affiliation item are no less, and may even have stronger R/S beliefs than many of those who clearly identify their religious affiliation on survey forms. Offspring of Anglican mothers appear no different to those with no religious background in regard to religious ideation, which is consistent with this group’s comparatively low levels of belief in God and frequency of church attendance in young adulthood. The higher religious ideation scores for offspring of Catholic mothers compared to offspring of non-affiliated mothers, and the lack of difference in total PDI scores for offspring of Anglican mothers differs from Getz’s (2001) findings that Catholics had lower levels of religious ideation than Anglicans.

However, Getz's study sample involved in-patients with psychosis and they were classified according to patients' current religious affiliation and not the religion in which they were raised.

Finally, total PDI scores were found to be highest for those whose mothers were affiliated with one of the Pentecostal churches during the young adult's early life, followed by those who reported believing in a spiritual or higher power, and those who stated that they believed in God at the time of the 21-year follow-up. The fact that belief in God was not related to disturbed ideation, suspiciousness, or paranormal ideation, suggests that the high total PDI scores found for believers in God arose not just from their tendency to endorse each of the religious ideation items, but their endorsement of delusional items across other domains as well. The tendency of young adults with a Pentecostal background to have high scores for religious, disturbed, and paranormal ideation, accounts for this group's high total PDI scores. The higher rate of upper decile total PDI scores found among those who believe in a spiritual or higher power is consistent with the Peters et al (1999) study which found that members of NRMs (Hare Krishnas and Druids) had higher total PDI scores than either Christians or those unaffiliated with any religion. These high PDI scores are to be expected for those with non-traditional R/S beliefs since they also had high scores across the domains of disturbed, suspicious, and paranormal ideation.

Overall, the findings related to delusional ideation identify those who endorse non-traditional R/S beliefs as a group with elevated levels of delusional ideation in multiple domains. They not only tend towards New Age beliefs, but to disturbed and paranoid thoughts as well. The latter cannot be explained as an artefact of measurement due to delusional items directly tapping beliefs that are characteristic of a non-traditional approach to the divine. This warrants further investigation as a means to clarify whether New Age beliefs encourage disturbed and paranoid thinking, or if those who tend towards disturbed and paranoid thinking are attracted to New Age beliefs. Within this study's sample, the strong associations between non-traditional R/S beliefs remained just as strong for disturbed, suspicious, and paranormal ideation (and total PDI scores) after young adults with prior thought disturbance were excluded from analyses. These results suggest that thought disturbance may have followed the uptake of non-traditional R/S beliefs, rather than having preceded these beliefs. This deserves due research attention given that religious conversion has been identified as a manifestation of "self-regression" (Beit-Hallahmi, 2001) and that some psychiatrists believe that irrational thoughts lead to a permanent and regressive change in personality (see Jones in Jones, Delespaul, & Van Os, 2003).

Antisocial behaviour in young adulthood

The aim of research question (4) was to identify any differential relationships between measures of young adult religiosity and religious background, and externalising behaviour in young adulthood.

In regard to traditional R/S beliefs, no connection was found between belief in God and antisocial behaviour for males. These results are consistent with findings from studies conducted many years ago by Argyle and Beit-Hallahmi (1975) and Lea (1982) showing no differences in the religious beliefs of delinquents and non-delinquents. However, weak negative associations were found between belief in God, as well as being unsure about believing in God, and externalising behaviour among females. It would seem therefore, that non-rejection of God among females has a modest connection to lower levels of antisocial behaviour. These weak negative associations either reached or failed to reach statistical significance depending on the other factors taken into account in analyses (non-traditional R/S beliefs and maternal weekly church attendance). The weak effect on antisocial behaviour observed for these groups may be due to these females being more likely to continue to embrace traditional religious norms about social behaviour than those who reject God outright. The lack of association between belief in God and antisocial behaviour among males, and the very modest negative association observed for females may well be a reflection of Australia's socio-cultural history. Despite increasing secularisation and religious diversity within Australia, Christianity is the religious tradition on which Australian culture and Australian society are based, with Christian values being enshrined in Australian law. Thus, one would expect that Christian values and norms would continue to exert some ongoing influence on the Australian population as a whole, regardless of whether or not individuals report that they believe in God.

The findings related to young adult church attendance are particularly interesting. The finding that males who attend church on a weekly basis are less likely to report high levels of antisocial behaviour than those who never attend church is consistent with the majority of previous studies reviewed by Gartner (1996) and Johnson et al. (2000). However, weekly church attendance was not found to have the same beneficial effect on female antisocial behaviour. The weakly significant negative association observed initially between weekly church attendance and female externalising behaviour failed to reach statistical significance once the influence of parents remaining together was taken into account. While the comparative lack of effect from weekly church attendance observed among females might appear somewhat curious, there are several possible explanations for this finding.

Firstly, it may be that the strength of social ties males have with other church members (promoted by regular contact) and the norms promoted within a church setting are important for deterring young men from behaving in an antisocial manner. However, the importance of religious membership for males may rest instead on the patriarchal nature of traditional religion, with this also explaining the lack of effect from weekly church attendance among females. Patriarchy is endemic in Christian religions. Discussion here focuses on Christianity since very few of the current study sample were from a non-Christian background. The feminist spirituality movement has drawn particular attention to the patriarchal nature of Christianity and has strongly criticised the Church's use of masculine terms when describing God (Woodhead, 1993). Females who attend church regularly may feel at odds with church members they mix with in a church setting who maintain traditional religious beliefs, values, and norms that are patriarchal in orientation. Females may be offended by the historical and persisting influence of patriarchy within traditional religious organisations and thus be less likely than males to be influenced by the Church's dictates in regard to social behaviour. This may help to explain why their rates of antisocial behaviour are little different to females who never attend church or those who attend church infrequently. Males who attend church regularly on the other hand, may be more prone to follow traditional religious teachings since these are rooted in patriarchy, which may give males a sense of security about their maleness and thus minimise the need for them to prove their power through aggression, delinquency or intrusive behaviour. This lends some support to Durkheim's argument that religion helps to preserve the social order; in this case, the patriarchal social order. During Durkheim's lifetime, traditional religion played a key role in preserving patriarchy, with this power gradually being undermined in wider society by the feminist movement and increased secularisation. The Anglican Church stands apart from many other Christian religions as having given some recognition to gender inequality within Church doctrine, as demonstrated by its endorsement of women entering the clergy. However, Christianity remains firmly rooted in patriarchy. The treatment of males and females within Christianity is necessarily influenced by the Bible and its symbolic representations of what it means to be male or female. The central male figure within Christianity is Jesus Christ, who is held to be the Son of God, while the most prominent female figures in the Christian tradition hold positions that range from having a divine connection (Mary, mother of Jesus Christ), to being saved from a life of prostitution (Mary Magdalene), to a temptress who is attributed most of the blame for the fall of all humankind (Eve tempting Adam to eat of the forbidden fruit in the Garden of Eden – "original sin"). Perhaps the beneficial association between weekly church attendance and

antisocial behaviour observed for males in this study is linked to the capacity of traditional religious organisations to provide a more gender-affirming environment for males than they provide females.

Secondly, it is possible that Benda's and Corwyn's (2000) argument that church attendance is likely to be a poor measure of religious commitment among the young might be relevant to this study's findings. Since church attendance among the young is likely to reflect family pressures placed upon young people to attend church, rather than a young person's level of religious commitment, it may be that young adult females are more strongly influenced than males by family pressure to attend church. Thus, the gender differences observed on externalising behaviour from weekly church attendance in the current study may reflect to some degree, unwilling participation in religious services by females. Males who attend church regularly may be predominantly those who do so of their own volition. However, it is not clear that vulnerability to family pressure to attend church is more pronounced for females than males, and no significant difference was found between rates of male and female weekly church attendance within the sample. In addition, family pressure to attend church is likely to have less effect on individuals once they have reached young adulthood than when they were in early to mid-adolescence. Thus, there appears to be little grounds to suspect that unwilling participation in religious services is a plausible explanation for the gender differences observed.

Thirdly, another plausible explanation for the gender differences observed for weekly church attendance is that males may tend to under-report their antisocial behaviour when completing survey forms. However, it is not clear why weekly church attending males in the study sample would be more subject to this kind of reporting bias than females who attend church at the same frequency.

It is also noteworthy that church attendance on less than a weekly basis appears to have no beneficial effect on antisocial behaviour for either males or females. It may be that irregular church attendees lack a sense of identification with other church members and the congregation as a whole, as well as the beliefs and norms promoted by religious doctrine. Given that empirical data shows that people now move between churches and do not necessarily restrict themselves to the services provided by a given religious denomination, it is possible that switching between churches and the lack of commitment to any particular religious organisation or doctrine is more common among those who attend church irregularly. If this is the case, the norms and beliefs promoted by religious institutions may have little influence on the social behaviour of infrequent church attendees. However, the

notion that religiosity among younger generations represents a congregation of one (Arnett & Jensen, 2002) may be most relevant here, with those who attend religious services on an infrequent basis being no more constrained by religious doctrine than those who never attend church.

In relation to religious background, only weekly maternal church attendance was found to be weakly and negatively associated with antisocial behaviour, and this was solely the case for males. However, the statistical significance of this association disappeared after maternal age and parents remaining together were taken into account. Mothers who attended church on a weekly basis during their offspring's childhood years were more likely to be over twenty years of age at the time of delivery and to have never divorced or separated over the course of their children's lives. Previous studies using cross-sectional data have shown a beneficial effect from regular maternal church attendance on adolescent aggression (for example McCullough & Larson, 1999) but few studies have the capacity to determine whether regular maternal church attendance has a long-term effect on offspring behaviour into adulthood and the extent that family characteristics confound this relationship.

In contrast to the findings for belief in God and church attendance, non-traditional R/S beliefs were found to predict higher levels of antisocial behaviour, regardless of gender. The strong positive associations found between belief in a spiritual or higher power other than God, and externalising behaviour for both males and females suggest that the move away from traditional religion to alternative forms of religiosity are having some negative influence on young adults' social behaviour. These findings may however, reflect the embracing of particular R/S beliefs because they allow individuals the freedom to behave in ways that are generally discouraged by traditional religions. However, the causal link between non-traditional R/S beliefs and antisocial behaviour is suggested by the lack of change in effect in the association between non-traditional R/S beliefs and antisocial behaviour, once prior externalising behaviour was taken into account. Thus, higher levels of antisocial behaviour among those who believe in a spiritual or higher power other than God do not appear to be attributable to antisocial personality traits. These results suggest that the worldview of the New Spirituality (as indicated by belief in a spiritual or higher power) does not serve to reinforce social norms and values and further, this particular worldview may actually undermine social norms and values for males and females alike. These findings support observations of the New Spirituality as being anti-establishment in orientation and raise concerns that this orientation extends to the way individuals interact with others in their social environments on a day-to-day basis.

Belief in God is endorsed by Christians and non-Christians, as well as those who have no religious affiliation. Likewise, belief in a spiritual or higher power is not dependent upon religious affiliation, but captures all those who have embraced beliefs that deviate from traditional religious thought, regardless of the extent of their past or ongoing involvement with religious institutions. The findings on antisocial behaviour in this study lend strong support to Campbell's (2001) argument that the New Age theodicy is a-social and individualistic in nature, since antisocial behaviours are indicative of a tendency towards self-gratification, a lack of consideration and respect for others' interests, as well as disregard for the consequences of one's actions on others. Intrusiveness and aggressive and delinquent acts imply a lack of moral duty and social obligation to others. The strong associations observed between these behaviours and non-traditional R/S beliefs raise serious concerns that this new form of religiosity might directly undermine prosocial norms and values at a community level.

Potential confounders: insight into the characteristics of those who endorse non-traditional religious/spiritual beliefs

Even though numerous factors were identified as potential confounders in this study, their effects on the observed associations between belief in a spiritual or higher power other than God and young adult mental health and social behaviour were trivial. Nevertheless, attention to the findings from the preliminary analyses undertaken to identify possible confounders provide some insight into the individual and social characteristics of those whose beliefs are aligned with the New Spirituality. Socioeconomic factors such as maternal age and education, and family income in adolescence, as well cultural factors like race, appear to have no association with the uptake of non-traditional beliefs in young adulthood, regardless of gender. By contrast, belief in a spiritual or higher power was found to be associated with high alcohol and cannabis use, other substance use, and parental divorce, separation or death. Living in problem neighbourhood was also found to be associated with endorsement of non-traditional R/S beliefs. The link between these factors and changes that are characteristic of contemporary society such as the breakdown of the family unit, increased urbanisation, high alcohol consumption and use of other substances among the young is obvious. Thus, it would seem that the adoption of non-traditional R/S beliefs is connected to the conditions of contemporary life. While substance use was not observed to confound any of the associations between belief in a spiritual or higher power other than God, and anxiety/depression or externalising behaviour, it is noteworthy that health-risk behaviours are linked to non-traditional R/S beliefs. It would seem unlikely that non-traditional R/S beliefs directly encourage alcohol and substance use. However, the fact that the philosophy of the New

Spirituality encourages individual decision making about beliefs and behaviour and has no doctrine that proscribes alcohol consumption, cannabis or other substance use, may well make those who adopt this philosophy more likely to consume higher levels of alcohol and to experiment with drugs and other substances. Alternatively, it may be that young adults who are already consuming large amounts of alcohol, who are regular cannabis users, or who have experimented with other substances, and who also have some religious yearning are easily attracted to a R/S belief system that does not prohibit such behaviours. A proportion of believers in a spiritual or higher power other than God who have used cannabis or other illicit substances, may also have adopted this belief following their experiences of altered states of consciousness while under the influence of these substances. These altered states may be perceived by them as being “spiritual experiences”, and thus be conceived as evidence of the existence of a higher or spiritual power. Belief in God among this study’s sample was found to be negatively associated with high alcohol and cannabis use, and church attendance negatively associated with high alcohol and cannabis use, and use of other illicit substances. While Luckmann (2003) claims that contemporary forms of religiosity are hedonistic in orientation in general, it is worth noting that this study’s findings suggest that hedonistic activity among young adults might be more attributable to those who hold non-traditional R/S beliefs, than it is to those who maintain traditional R/S beliefs.

Summary

Overall, the findings from this study indicate that belief in a spiritual or higher power other than God is positively associated with anxiety/depression, high levels of delusional ideation, and antisocial behaviour. Although the associations observed between this belief and anxiety/depression were fairly modest for both females and males, and the association for males was found to be explained by pre-existing anxiety/depression, the findings related to delusional ideation and antisocial behaviour suggest that the shift away from traditional religious thought towards non-religious forms of spirituality has the potential to compromise mental health and undermine prosocial norms. Alternatively, it may be that non-traditional R/S beliefs are a marker for those who are disenchanted with life in the modern world, who question the legitimacy of the existing social order, and whose mental health and social relationships are being compromised as a result. Either way, the findings from this study suggest that new forms of religiosity demand further research attention as a means to understand the extent that religious change is linked to population mental health and social behaviour among younger generations.

While traditional religiosity appears to have little to do with anxiety/depression, whether assessed by belief in God, church attendance, or religious background, weekly church attendance appears to play some role in deterring antisocial behaviour among young Australian adults, particularly males. It needs to be remembered however, that only eight per cent of young adults in this study were found to attend church on a regular basis, similar to the national Australian average for all adult age groups (8.8%). Thus, the benefit that weekly church attendance might provide in deterring antisocial behaviour is only applicable to a small proportion of young adult males.

Alternative conceptions of the divine were found to be endorsed by nearly one quarter of the young adults in this study. Thus it would seem that the open market of religious worldviews that Luckmann (2003) sees as characterising contemporary religiosity is leading to younger generations developing new forms of religion that ultimately have little or no connection to the religion of their ancestors (Luckmann, 1967). The findings from this study suggest that new forms of religion, which represent a departure from traditional religious thought, may lead to moral duty and social responsibility being replaced by a predominant focus on self-fulfilment and self-gratification – the “new norm for a New Age”.

The limitations of this study are discussed below. The implications of this study’s findings and possible directions for future research are outlined in the next chapter, Chapter Eight.

Limitations of the current study

In determining the religious background of the young adult sample, this study has relied upon maternal report of the mother’s belief in God, maternal religious affiliation at entry to the study, as well as maternal church attendance when the child was five years of age because no direct measures of the study child’s attendance at church or R/S beliefs were included in any wave of data collection until the 21-year follow-up. This has prevented any examination of the study child’s direct involvement in church or religious activities during childhood or adolescence and their connection to religiosity or to mental health and social behaviour in young adulthood. This caveat needs to be kept in mind when interpreting the study’s findings. Connections found between maternal belief in God and religious affiliation rest on information gathered during the prenatal period, and maternal church attendance in childhood. The study mothers may have changed their religious affiliation at any stage subsequent to the commencement of the study, and therefore, this study is unable to determine either the extent of changes in maternal religious affiliation over time or any

influence this may have had on offspring religiosity or their mental health and social behaviour in young adulthood. Nevertheless, the fact that strong associations were found between religious background at an early stage of the young adult's life, and their levels of religious ideation two decades later, suggests that exposure to R/S beliefs in early childhood may give children a sense of relationship with God that stays with them over the long-term.

This study also lacked information about paternal religious affiliation, beliefs and activities and it may be that in some households, paternal rather than maternal religiosity would be a better predictor of offspring mental health and behaviour. However, since mothers are more likely than fathers to have taken the main responsibility for childrearing during the period of the 1980s, and mothers may have also changed their religious affiliation and patterns of church attendance to coincide with that of their partners, it is plausible that for the majority of the study sample, maternal religiosity would be a better predictor of offspring outcomes than paternal religiosity. It remains however, that this study does not have the capacity to detect differences in the outcomes of interest that might be connected to paternal religiosity. Despite these limitations, the effects observed from religious background in this study suggest the importance of considering this dimension when investigating the religion-mental health relationship.

The young adults in this study were also not asked about religious affiliation at the time of the 21-year follow-up, thus preventing any investigation into the correspondence, or lack of correspondence, in religious affiliation between mother and child, or any connections between the outcomes of interest and the study children's religious affiliation in young adulthood. However, the main focus of this thesis is comparison of mental health outcomes according to contrasting conceptions of the divine, irrespective of affiliation or non-affiliation with a given religion. It has also been argued in this thesis that identification and non-identification with a particular religious group or organisation fails to differentiate traditional from non-traditional religiosity in a contemporary setting. Thus, the lack of access to information about young adult religious affiliation does not undermine the argument presented in this thesis. The reliance on belief in a spiritual or higher power other than God as a measure of non-traditional R/S beliefs gives no indication as to whether this belief represents alignment with the worldviews promoted by the Deep Ecology movement, the New Age/Human Potential movements, feminist spirituality, or other varieties of spirituality that distance themselves from mainstream religion. However again, one can argue that this non-traditional approach to the divine is a mode of thought that is characteristic of all these different varieties of spirituality and thus the lack of information about whether respondents conceive a spiritual or higher

power as being related more to forces of nature, to universal forces, or to an abstract notion like love, peace, or spirit, does not compromise the findings from this study.

The attrition rate between birth and young adulthood among the young adult sample (47.7%) is substantial. The findings from this study would be biased if the associations that have been assessed were non-existent or in the opposite direction for non-participants, which is unlikely. The levels of church attendance and the prevalence of R/S beliefs observed among the study sample are similar to those found for the Australian population (ABS, 2001a; Bellamy & Castle, 2004). Thus, there seems to be little reason to suspect that the study sample over-represents or under-represents churchgoers or those who maintain R/S beliefs. Sociodemographic factors that characterised those lost to follow-up have been considered in this study, with them being found to have little or no effect on observed associations between non-traditional R/S beliefs and anxiety/depression, delusional ideation, and externalising behaviour. These factors were also found to have little effect on associations between young adult belief in God or church attendance, and delusional ideation and externalising behaviour. Therefore, it appears that attrition has not biased estimates related to young adult religiosity and the mental health and behavioural outcomes examined, in any substantial way. Differential attrition according to maternal belief in God, church attendance and religious affiliation may have biased estimates derived from maternal religiosity to some degree, given that mothers who didn't believe in God, who never attended church, and who had no religious affiliation had higher attrition rates. However, maternal religiosity was found to have no associations with young adult anxiety/depression or externalising behaviour in young adulthood. Thus, attrition bias related to measures of maternal religiosity is only of concern for the findings related to delusional ideation outcomes and connections between maternal religiosity and young adult religiosity. Since effects related to these outcomes are based on mothers with no belief in God, who never attended church, and who had no religious affiliation as reference groups, the higher attrition rates observed for offspring of mothers with these characteristics suggest that the estimates related to maternal religiosity are likely to be underestimates rather than overestimates.

The measures of young adult anxiety/depression and antisocial behaviour rely on young adult self-report and thus cannot be considered the same as a diagnosis by a clinician. However, Achenbach's (1997) YASR instrument has been shown to have high reliability and adequate validity, and clinician-based diagnoses also rely heavily on patient self-report. Due to the attrition rate, determinations of caseness in this study were purposefully based on Achenbach's designated cut-offs for borderline-clinical problems for normative samples rather

than the distribution of scores among the MUSP sample, to ensure that loss to follow-up has not led to selection bias among those individuals categorised as “cases”. It would also seem unlikely that estimates of anxiety/depression, delusional ideation or externalising behaviour are subject to self-report bias, unless the reporting of symptoms by young adults in this study was influenced by the holding of particular R/S beliefs, attendance at church, or gender. If young adults who endorse non-traditional R/S beliefs are more prone to report symptoms of anxiety/depression than those who endorse traditional R/S beliefs or have no R/S beliefs, this would suggest a tendency among this group to exaggerate symptoms of depression and anxiety. Those who endorse non-traditional R/S beliefs may be more preoccupied with their feeling states than others. If this were the case, the findings would still suggest that non-traditional R/S beliefs might undermine an individual’s *sense* of his or her emotional wellbeing. It is also unclear whether this group might over-report symptoms of intrusiveness, aggression and delinquency. However, there seems to be no plausible reason for suspecting that those who hold non-traditional R/S beliefs perceive their social behaviours differently to those who reject these beliefs. Weekly church attenders on the other hand, may tend to under-report symptoms of antisocial behaviour, since antisocial acts represent a failure to comply with religious teachings. If this form of bias has affected the findings in the current study, one would expect that similar effects would have been observed from weekly church attendance for males and females alike, but gender differences were found. Nevertheless, it is possible that males who attend church regularly are more prone to under-report symptoms of externalising behaviour than their female counterparts.

One significant limitation of this study is that the findings related to religiosity and mental health outcomes in young adulthood rest on cross-sectional data and thus caution is needed when inferring causality. However, the capacity of this study to draw on longitudinal data from the adolescent period (that assess the same types of outcomes in young adulthood) allows some inferences to be made about the extent that the poorer outcomes of those who hold non-traditional R/S beliefs are due to personality traits.

Finally, this study has relied on secondary data analysis in answering the research questions formulated for the purposes of this study. Qualitative approaches and methods such as participant observation, ethnography, focus groups, content analysis, and interviews hold great potential for elucidating the mechanisms that may explain the associations observed in this study. Possible directions for future research involving these methods are outlined towards the end of the next and final chapter, Chapter Eight.

Chapter Eight: Conclusion

This thesis has drawn attention to the lack of adequate theories that currently inform investigations into connections between religiousness, spirituality, mental health and social behaviour. As noted by Hill and colleagues (2000) the upsurge in interest in spirituality appears to be evidence-driven, and not theory-driven. This evidence rests on operational definitions of religion, religiousness, and spirituality that reflect inconsistent conceptualisations of these terms. The lack of consensus concerning these terms mean and how they might be measured serves to support the argument that religion is not “an intelligible entity” and is therefore not a valid object of inquiry within a scientific paradigm (Smith, 1991:12). It also lends support to the view that the concept religion is “solely the creation of the scholar’s study” with “no independent existence apart from the academy” (Smith, 1982:xi). The lack of agreement on what religion and spirituality are, or how they might be distinguished from one another, undermines the legitimacy of religion (or spirituality) being regarded as a valid scientific concept. The conceptual and methodological issues that surround the study of religion and spirituality have to be addressed if these types of arguments are to be convincingly rejected.

It needs to be borne in mind that these same sorts of arguments could be mounted against the study of social phenomena more generally. If the study of religion were to be abandoned on the basis of the criticisms identified above, it would follow that the study of other social factors that are complex and multidimensional in nature should likewise be abandoned. Unlike the physical and natural sciences, the social sciences frequently face many problems in measuring their objects of enquiry. Measuring an individual’s level of religious commitment or the importance individuals place on religion and/or spirituality as a means to negotiate daily living is especially difficult, given the disparate meanings ascribed to these terms within contemporary settings. The tendency for many researchers in the area of religion and spirituality who use quantitative methods, to employ statistical methods like correlation or linear regression analyses, assumes that factors like belief or frequency of church attendance involve interval measurements when this is not the case. These kinds of statistical methods treat responses to a question like “Do you believe in God” that range from “no”, “don’t know”, to “yes” in a manner that conceives them as having equal levels of difference from one another. The “don’t know” category in particular, may involve those who rarely give God a passing thought, as well as those who reflect often on religious and spiritual matters such as the existence and nature of God and the meaning of life. Belief in the existence of some sort of spirit or force, as a third level value of belief in God (with “not sure” and “no belief”

representing the second and first levels of this measure) for analytical purposes (see Francis & Kaldor, 2002 for example) fails to consider the very different worldviews implied by different approaches to the divine. This kind of approach thus holds little promise for examining differences in outcome that might be attributable to differing worldviews. The legitimacy of assuming that linear relationships exist between measures of R/S beliefs, or self-identification with religiousness/spirituality, and health outcomes is questionable. Further development of measures is needed to enable simple measures to be devised which are able to differentiate those who give R/S matters little attention from those who give R/S matters considered thought but who are loathe to reject or endorse a given belief and simply choose the “don’t know” or “unsure” options by default. Evidence identifying null relationships between religion/spirituality and mental health are too easily taken to indicate that religiosity does not “count”. Such findings may reflect to a small or a large extent, problems of measurement, the analytical methods used, as well as the limitations imposed by the scientific method more generally. Observations of “no effects” from measures of religiosity do not necessarily equate to religiosity being unimportant as an influence over particular health outcomes, but rather that the phenomena being studied create many more difficulties for researchers than are faced by those who restrict their attention to tangible and more concrete phenomena.

Like the work by Saucer and Skrzypinska (2006), the findings from this thesis indicate that a traditional religious orientation represents a form of religiosity that is distinct from that which is non-traditional in orientation, by virtue of the different patterns of thinking that are associated with each of these orientations. These two distinct belief systems thus require consideration within research enterprises investigating connections between religiousness, spirituality, and health. Even though efforts have been made to devise multiple-item scales that can capture different R/S orientations, and these may provide insight into differential connections between various religions, different varieties of spirituality, and various aspects of health status in the future, these may be too cumbersome for inclusion in large-scale population studies. Large research enterprises may be forced to rely on a limited number of items that have the capacity to differentiate between traditional and non-traditional approaches to religion and spirituality. It may therefore be necessary for researchers to make decisions about analytical methods that are appropriate to the objects of their enquiries based on the nature of these phenomena, the measures available to them, and how they might best be examined to further understanding of the various ways different aspects of religion and spirituality influence health and vice versa. While the inclusion of spirituality as a new object of enquiry within the study of religion has served to exacerbate the conceptual, theoretical and

methodological issues that are common to the study of religion, it also provides opportunities for theory building and revision, as well as re-thinking the ways in which religion is conceived and studied. Unless these opportunities are embraced, the study of religion will no doubt remain of peripheral interest to the wider scientific community, do little to advance the pool of knowledge beyond that which has already accumulated over the past 100 years or so, and certainly not extend our understanding of the extent that religion and spirituality contribute to patterns of mental health and social behaviour in the contemporary world.

Georg Simmel's (1997[1898-1918]) approach to religion seems to hold promise as a platform from which theories of religion can be revised. Simmel's notion that being religious is more about an individual's "attitude of soul" than it is about collective religious representations, raises the possibility that religiousness has little to do with whether an individual self-describes as being religious, non-religious, spiritual, or agnostic. Simmel's argument that it is those without an attitude of soul who most need religion, since it may be the only means by which they develop a sense of moral duty, gives cause for re-assessing the way religiousness is conceived. Simmel's conception of religiousness questions the notion that those who attend religious services, join spiritual groups or adopt particular R/S practices are more 'religious' than those without membership to a particular group, or those who don't engage in particular rituals or practices. Perhaps a sense of moral duty to others, to society and the world at large, as well as actions that reflect this position, should figure more strongly as an object of enquiry as *the* constitutive elements of "being religious"; rather than continuing to use concepts and measures of religion that largely fail to capture qualities that reflect an "attitude of soul".

Single measures of self-perceptions of being "religious/spiritual", and self-perceptions of the "importance of religiousness/spirituality" would seem to hold little promise for furthering our understanding of spirituality and religiousness and their beneficial and harmful qualities. There is little way of knowing what these terms mean to those who are studied, or the types of beliefs, attitudes, and/or practices that might be represented by people's self-perceptions of their level of religiousness and/or spirituality. Furthermore, self-perceptions of spirituality/religiousness serve to ignore social contexts altogether, by conceiving spirituality and religiousness as a singular personal quality. Zinnbauer and colleagues (1999:903) argue that the regard of spirituality "as a solely personal phenomenon" overlooks "the cultural context in which this construct has emerged, and the fact that spirituality is not experienced or expressed in a social vacuum". This parallels Durkheim's argument that to regard mental illness and suicide as individual phenomena is to neglect the role of the social in these

outcomes. Zinnbauer et al. (1999:903) argue further that it is “no coincidence that the popularity of spirituality has grown in a culture that values individualism and rejects conventional authority”. Thus, research approaches to the study of spirituality that fail to consider the cultural, economic, and political contexts in which this term has arisen, and instead see spirituality as merely a personal quality, are likely to provide little insight into the spirituality-mental health relationship. The positive and negative sides of religion have attracted substantial theoretical interest and a considerable amount of empirical attention. To date however, little theoretical or empirical attention has been directed towards the potential harmful qualities of spirituality. Zinnbauer et al. (1999:904) argued years ago that “the notion of “good” spirituality may lead scholars and those in the greater population to neglect the potentially destructive side of spiritual life”. Any notion that spirituality is a superior form of religiosity to traditional religiousness, because it allows individuals freedom of choice and freedom of expression, rests on the assumption that the decisions and actions of those who favour a spiritual worldview have some advantages over those whose decisions and actions are steered and/or constrained by traditional religious norms and values. The legitimacy of this assumption needs to be questioned, given that only a handful of studies have examined spirituality as a phenomenon that is distinct from religion, and their respective findings give no indication that “spirituality” has more positive consequences for either the individual or society. The broader social processes that have led to the emergence of a non-religious variety of spirituality by substantial proportions of populations throughout the Western world warrant specific attention. The current study’s findings are discussed below giving consideration to the socio-cultural context in which contemporary R/S beliefs and practices have arisen, as well as the possible directions future research enterprises might take to further our understanding of why a non-traditional R/S worldview might influence mental health and social behaviour in negative ways.

The study findings and their implications for future research

The findings from this study provide empirical evidence that belief in a spiritual or higher power other than God is related to young adult anxiety/depression, and that this belief predicts various forms of delusional ideation and antisocial behaviour in early adulthood, regardless of gender. Even though demographic and socioeconomic factors, health-risk behaviours, family structure, and the quality of neighbourhoods in which young adults live were taken into account in this study, they were found to have no moderating effect on the negative outcomes observed for young adults who conceive the divine to be a spiritual or higher power rather than God. It is noteworthy however, that the embracing of a non-

traditional approach to the divine appears to be associated with factors that reflect conditions that are perceived as characteristic of contemporary life such as neighbourhood crime and delinquency, changes in family structure, and high use of alcohol, cannabis, and other substances. Yet, problem neighbourhoods, family breakdown, and health-risk behaviours were not found to explain the links observed between belief in a spiritual or higher power and anxiety/depression, delusional ideation, and antisocial behaviour in young adulthood. The findings do not support the notion that associations between non-traditional R/S beliefs and poor mental health and aberrant social behaviour rest on the fact that those who have a chronic mental illness or an antisocial personality are prone to adopt these beliefs. While a prior history of anxiety/depression was found to contribute to anxiety/depression in young adulthood for males who endorse belief in a spiritual or higher power, this was not the case for females. Prior history of thought problems did not explain the association between this particular conception of the divine and various forms of delusional ideation in young adulthood, and antisocial behaviour in adolescence did not appear to be involved in the association between belief in a spiritual or higher power and antisocial behaviour in young adulthood. Even though females were found in this study (consistent with previous studies) to endorse non-traditional R/S beliefs more than males, adjustment for gender made no difference to the relationships observed between a non-traditional conception of the divine and various forms of delusional ideation. The pattern that emerged too, for belief in a spiritual or higher power and antisocial behaviour among females and males was almost identical. Together these findings identify the shift away from traditional religious forms of spirituality to a non-religious variety of spirituality (the New Spirituality) as a trend that warrants further empirical attention for its possible negative implications for young adult mental health and social behaviour at both an individual and population level.

The findings from this study also indicate that belief in God and church attendance have no association with anxiety/depression, or to disturbed ideation or suspiciousness in young adulthood. Females who are unsure about God, appear to be slightly less likely to report antisocial behaviour than those who reject this belief, but females who believe in God appear to be no better off than those who reject God, once belief in a spiritual power is taken into account. This appears to be due to the tendency of a proportion of young adults to maintain traditional R/S beliefs *and* to embrace non-traditional R/S beliefs simultaneously. Males on the other hand appear to gain no benefit in terms of their social behaviour, from believing in God. Church attendance also appears to have little influence in deterring antisocial behaviour among young adults, except for males who attend church services on a weekly

basis. However, given that such a small proportion of young Australians attend church on a weekly basis, any benefits derived from lower rates of antisocial behaviour among male church attenders is likely to have a minimal effect at a population level. The gender differences observed in this study in relation to weekly church attendance and antisocial behaviour, suggest that further attention needs to be given to the ways in which gender affects young people's experiences within traditional religious organisations, and the extent that these experiences give rise to differences in the attitudes and behaviours of females and males. It needs to be borne in mind that this conclusion is based on findings for a sample that is predominantly Christian in background. Only 1.7 per cent of the young adults who reported attending church services on a weekly basis had a non-Christian background. Overall, the findings related to traditional R/S beliefs and participation in religious services indicate that these particular aspects of religiosity might be having little influence, positive or negative, on the mental and emotional wellbeing and social behaviour of younger generations.

This study's findings suggest the possibility of a causal link between non-traditional R/S beliefs and anxiety/depression, delusional ideation, and antisocial behaviour. Given the current paucity of empirical evidence related to non-religious forms of spirituality, and mental health and social behaviour, it would seem that future mental health research in the area of religion and spirituality needs to be directed towards the beliefs and practices encompassed by the New Spirituality, within the context of its nonconformist and radical origins. Raschke (1996:207) summarises the New Age movement as follows:

The New Age movement – a lush jungle of exotic spirituality, lifestyle preferences, metaphysical preoccupations, and voguish superstitions – is in many respects a codifying of what in the late 1960s and up through most of the 1970s was called 'alternative' culture.

He also attributes the mainstreaming of New Age thinking to the “coming to power and prominence of the baby boomers”, and to “an instinctive rejection by younger masses of the populace of the political and social preoccupations that had prevailed since the 1940s” (Raschke, 1996:215-216). The links that have been identified by numerous authors between the New Spirituality and the feminist movement, the baby boom generation, the hippie counter-culture of the 1960s, environmentalist groups, Eastern and native religious beliefs and practices, and holistic medicine, suggest that the anti-establishment orientation of the New Spirituality is perhaps its most important feature from a health perspective. Raschke (1996:207,220) describes New Age spirituality as a “kaleidoscope of fads, fantasies, and follies”, a “large-scale form of psychodrama that is unintelligible to those both younger and older”, a “dramatic spectacle of the social unconscious”, a “massive working out of issues”,

and argues that the New Age is “America’s burden for the foreseeable future”. If Raschke is correct in his assessment, the New Age is not a burden carried by the United States alone – it is a load shared by other nations. The New Age movement’s contemptuous regard of Western culture in general is evidenced by its willingness to embrace almost any belief or practice that departs from traditional Christian culture, its rejection of patriarchy, its experimentation with alternative health practices, and its apparent disregard for anything that is claimed to represent scientific ‘fact’. Thus, greater theoretical and empirical attention needs to be focussed on non-religious spirituality, not merely as a personal quality, but as an entity that is distinct from traditional religion by virtue of it encompassing multiple beliefs and practices that have arisen out of a rejection of patriarchy, religious authority and dogma, and mainstream values and beliefs. Otherwise, researchers, clinicians and educators alike may fail to grasp the salience of contemporary religiosity to the health and wellbeing of individuals and populations, as well as the nature of the mechanisms that give rise to better or worse outcomes for the religiously and spiritually inclined. The panoply of beliefs and practices that are characteristic of the New Age movement and its political and counter-cultural origins provide countless opportunities for theory building and research.

Theorists and future research enterprises might focus on the content of New Age beliefs and practices for their capacity to encourage irrational thinking and the rejection of social norms. The idea that individuals should take authority over moral decision making and behaviour, a view promoted by the New Spirituality, suggests that individuals who are aligned with the New Spirituality might perceive themselves as being free to think and act as they please. The findings from this study tend to support this hypothesis. Young adults who reported believing in a spiritual or higher power other than God were found to have significantly higher rates of paranormal/grandiose ideation and externalising behaviour – suggestive that these individuals believe they have access to, or experience of, supernatural powers, tend towards delusions of grandeur, and behave in ways that give expression to these views. Given the anti-establishment nature of the New Age movement, it may be that the non-traditional and oft times bizarre nature of these beliefs and practices may be a core element that attracts people to a New Spirituality approach – *because* these beliefs and practices are “deviant” by traditional religious and mainstream standards. New Age settings may act as a means for these beliefs and practices to be “legitimised” because they are conceived by those within these settings to represent free expression of creativity and individuality – signifiers of individual freedom from traditional norms and constraints. New Age networks may thus reinforce unconventional ideas, practices, and behaviour, and even escalate their transmission

and reproduction. Popular culture may work in tandem with these networks. Cinema and television screens have provided a steady stream of tales and images over the past few decades to audiences all over the world, which portray human life as being bound up with supernatural and paranormal forces, and alien life forms. Prominent movie stars, Tom Cruise and John Travolta, have publicly identified themselves as dedicated Scientologists. Shirley Maclaine achieved “New Age guru” status during the 1980s, following the publishing her book, *Out on a Limb* (Maclaine, 1983), and the televising of her movie under the same title. J.Z. Knight (an American business woman who claims to be a “channel” for a 35,000 year-old “spiritual warrior” known as “Ramtha”) holds celebrity status as a spirit-channeller and prophetess in the United States (see Raschke, 1996). Knight is just one in a long parade of New Age/Human Potential entrepreneurs from the United States who have successfully “sold their wares” to Australians in recent decades.

The Human Potential component of New Age philosophy may lead to unrealistic expectations about what individuals can achieve and change in their lives, thus leading to feelings of anxiety and depression when these expectations fail to be realised. Even though brainwashing theories appear to have lost favour within the scientific community, the means and methods used by New Age/Human Potential entrepreneurs in their seminars and workshops warrant closer examination as a means by which audiences are steered towards irrational thinking and behaviour. Techniques such as creative visualisation, affirmations, guided meditations, and overt promotion of the idea that participants need to be “re-programmed” towards positive thinking, success, and happiness, may make audiences vulnerable to the many suggestions made by these entrepreneurs, thereby shaping their worldviews, attitudes, and behaviours. There is no suggestion here that audiences are unwilling participants in this “re-programming” process. However, the means and methods employed by New Age/Human Potential entrepreneurs need to be scrutinised for their capacity to persuade people that they need to alter their thinking processes, and the extent of influence these alterations might have on the lives of those who readily embrace these “life-changing” ideas and practices. New Age/Human Potential entrepreneurs commonly target parents, families, educators, science, religion, as well as members of wider society, as being the original “programmers” of negative thoughts and beliefs that lead to individuals limiting their own creative potential, success, and wellbeing. “Re-programming” represents a simple solution to complex problems. The rhetoric of New Age/Human Potential entrepreneurs is framed in terms of the need for “taking personal responsibility for one’s life”. Yet, underlying this rhetoric is an attribution of blame for individual problems to society and its members in the

first instance, with this blame subtly being shifted to individuals themselves, once they have become privy to the “truth” about the nature of “blockages” that serve to undermine their chances for personal success and wellbeing. The adoption of this particular worldview may help to foster suspiciousness, by reinforcing the perception that others who do not embrace these ideas and techniques are inferiors, or adversaries - thus having the potential to undermine social relationships. While the taking of personal responsibility is promoted as the way individuals can become more self-empowered and transform themselves and their lives, it also serves to make them responsible for any future experience of discontent or unhappiness. These mixed messages that emphasise both personal responsibility and a toxic social environment may serve to confuse individuals, even if these same individuals perceive themselves to be self-empowered and positive about their futures.

Numerous research questions and hypotheses might be devised in order to further our understanding of the New Spirituality and its possible negative influence on health for younger (and older) generations. A first step would be to find out about the ways in which young adults become attracted to non-traditional R/S beliefs. Are young people influenced more by popular culture or by the beliefs and practices of partners, friends, family, fellow students, teachers, employers, work colleagues, or acquaintances, or a combination of these? This study did not have the capacity to determine whether there is any connection between parental endorsement of non-traditional R/S beliefs and endorsement of these same beliefs in offspring. It is currently unknown if there is an intergenerational link in the uptake of non-traditional R/S beliefs. It may be that parents with the greatest tendency towards religious nonconformity and political radicalism have transmitted similar beliefs and values to their children. Studies are needed which can determine whether young people are members of the audience and client cults identified by Bainbridge and Stark (Bainbridge, 2004b; Bainbridge & Stark, 1980). Are young people similar or different to their older counterparts in the kinds of New Age activities in which they engage? To what extent do they purchase self-help books and books about spiritual wisdom/transformation, as well as other types of New Age materials and products? Do they have a tendency to visit various types of New Age therapists, Tarot Card readers, aura readers, spirit-channellers, and crystal and/or psychic or spiritual healers more than older generations? Do they participate in Human Potential workshops and seminars, attend meditation classes, yoga classes, spiritual retreats, and join spiritual groups or organisations? Answers to these questions may help to provide some insight into the interplay between New Age ideology and social interactions, as well as the mechanisms that might give rise to anxiety and depression, deluded thoughts, and antisocial behaviours among young

adults who endorse non-traditional R/S beliefs.

Secondly, do young people experiment with multiple practices that are associated with ancient, native or Eastern religions, and which fall under the categories of alternative medicine and/or Human Potential, spiritualism, and witchcraft, and does their choice of activity change over time? If so, does this eclectic approach serve to confuse young people in terms of what to believe, how they think, and the way they should behave? Does it also lead to feelings of insecurity?

Thirdly, how do young adults' New Age beliefs and practices influence the way they perceive and experience their relationships with others? Do they believe that they are on a solitary journey and thus tend to feel isolated from others? Do they have a tendency to be combative in their interactions with others, believing that others are unenlightened, non-spiritual, and/or too traditional and mainstream in the way they think and behave, and in need of "being changed", with these perceptions serving to undermine the harmony and quality of their social relationships? Do they have a general mistrust of others? Are they preoccupied with worries about the environment and the future of the world and thus have a tendency to become anxious and depressed? Do they perceive society in a negative light, and thus rebel against social norms?

Fourthly, we need to know whether there are individual and structural factors that predict young people's attraction to New Age thinking. Have young people's attraction to New Age beliefs and/or practices been triggered by traumatic life events or stressful circumstances, and are these of a personal nature or related to broader social processes and conditions?

Fifthly, we need to know the extent to which New Age philosophy affects the way young people perceive themselves and others. Are those who adopt a do-it-yourself approach to self-transformation in danger of developing distorted ways of thinking? Does an emphasis on personal transformation and self-actualisation encourage excessive "navel-gazing", a preoccupation with one's own feeling states, a sense of superiority, elitist attitudes, and narcissism? Does an emphasis on spiritual reality, and a de-emphasis of material reality, encourage escape from mundane realities into fantasy?

Sixthly, what dynamics are involved in the organisational component of the New Spirituality? What are the issues of power and conflict that arise between those who subscribe to the New Spirituality and those who subscribe to traditional religious forms of spirituality within religious organisations? What are the issues of power and conflict that arise in New Age

settings – between New Age/Human Potential entrepreneurs themselves, between members of their audiences and/or clientele, and between leaders and followers? What form of hierarchy exists in New Age settings? Is decision making within New Age organisations of a democratic nature or otherwise? To what extent are New Age organisations structured like business enterprises, and to what extent do they take the form of a community organisation or some alternative design?

It remains to be seen whether the beliefs, and means and methods used by adherents of the New Spirituality manage to bring about positive social change on a large scale. Despite the New Age movement's claims that its philosophy, means, and methods will serve to "change the planet" by raising human consciousness, healing people on a physical, mental, emotional, and spiritual level, and saving/restoring the natural environment, there currently seems to be little evidence of substantial progress in any of these domains. Despite the anti-materialist and counter-capitalist underpinnings of the New Age movement, New Age beliefs and practices have become just one more range of commodities in the open market. It seems that the New Age movement may in practice, reinforce the capitalistic nature of society rather than weaken it. What we need to know is whether the New Spirituality's rejection of traditional religious doctrine and authority has enhanced, and is enhancing, people's lives or if this non-religious variety of spirituality involves forms of hierarchy, bigotry, conflict, and power-seeking that are in essence, little different to what the early membership of the New Age movement sought to overturn. It may be that the New Spirituality's quest for freedom from the perceived tyranny of institutionalised religion, and the seeking of creative self-expression, self-fulfilment, and self-actualisation, are simply helping to create the conditions for the unleashing of a different form of tyranny – the tyranny of self.

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Appendices

Appendix A: Domains of religion and spirituality

Table A: Domains of religion/spirituality identified by the United States National Institute of Healthcare Research

Domain	Definition
1. Religious/spiritual preference or affiliation	Membership in or affiliation with a specific religious or spiritual group
2. Religious/spiritual history	Religious upbringing, duration of participation in religious or spiritual groups, life-changing religious or spiritual experiences, and “turning points” in religious participation or belief
3. Religious/spiritual participation	Amount of participation in formal or spiritual groups or activities.
4. Religious/spiritual private practices	Private behaviours or activities, including but not limited to prayer, meditation, reading sacred literature and watching or listening to religious or spiritual radio or television programs.
5. Religious/spiritual support	Tangible and intangible forms of social support offered by the members of one’s religious or spiritual group.
6. Religious/spiritual coping	The extent to which ways in which religious or spiritual practices are used to cope with stressful experiences.
7. Religious/spiritual beliefs and values	Specific religious or spiritual beliefs and values.
8. Religious/spiritual commitment	The importance of religion/spirituality relative to other areas of life and the extent to which religious or spiritual beliefs and practices serve to affect personal values and behaviour.
9. Religious/spiritual motivation for regulating and reconciling relationships	Most measures in this domain focus on forgiveness, but other issues may be relevant as well (eg confession, atonement).
10. Religious/spiritual experiences	Personal experience with the sacred, as reflected in emotions and sensations.

Source: George et al. (2000:105)

Appendix B: Summary of studies on religion and anxiety

Table B: Summary of studies examined in Shreve-Neiger's and Edelstein's (2004) review of the literature on religion and anxiety

Authors	Sample	Religion measures	Anxiety measures	Analysis/methods	Findings and observed effect/s
1. Hertzgaard & Light (1984)	760 randomly selected women living on farms in a Midwestern US state (mean age = 44)	Frequency of church attendance	Scores on Multiple Affect Adjective Check List (Zuckerman & Lubin 1965)	Stepwise regression analysis	<i>Beneficial:</i> Church attended > once per month was significantly associated with lower anxiety scores. <i>Harmful:</i> Catholic women were found to have higher anxiety scores than other women.
2. Williams et al. (1991)	720 participants in a longitudinal study in New Haven, CT. (mean age = 44.8)	Frequency of church attendance	Symptom Checklist Scale (Gurin, Veroff & Feld 1960) 2 measures of stressful life events	Regression analyses	<i>Beneficial:</i> Religious attendance at Time 1 (1967) positively related to SCS scores (lower distress) at Time 2 (1969) More frequent church attendance is negatively related to psychological distress, with religious attendance being found to buffer the impact of stressful life events and physical health complaints on psychological wellbeing
3. Petersen & Roy (1985)	Christian sample (N=318) in Memphis, TN	Frequency of church attendance	Three-item anxiety scale	Multiple regression analyses	<i>Beneficial:</i> Church attendance was the only significant predictor of anxiety: more frequent attendance was associated with lower scores of anxiety
4. Williams & Cole (1968)	161 college students	Religious participation, including church attendance, personal prayer, reading of religious material, Sunday School attendance, church-related activity	Maslow's (1952) Security-Insecurity Inventory	Religious participation scores categorised into: 'low religiosity' (one SD below mean); 'intermediate religiosity' (-.14 to +.14 SD); 'high religiosity' (one SD above mean).	<i>Beneficial:</i> Both the high and intermediate religiosity groups were significantly more secure than the lower religiosity group, but were not significantly different from one another in indices of security
5. Brown (1962)	203 undergraduates (mean age = 22), University of Adelaide	Intensity of religious beliefs (Thoules 1935), religious affiliation and attitudes	Taylor Manifest Anxiety Scale (Taylor 1953)		<i>Beneficial:</i> Higher manifest anxiety scores were observed for those with no religious affiliation only Null: no differences were found in anxiety scores between different religious denominations
6. Finney & Malony (1985)	9 non-psychotic adult Christian outpatients (3 males, 6 females; mean age = 30.3)	Use of contemplative prayer as an adjunct to psychotherapy	Spielberger State-Trait Anxiety Inventory (Spielberger et al. 1983)	Relationship between time spent in contemplative prayer and STAI scores examined	<i>Beneficial:</i> Time spent in contemplative prayer related to reduced anxiety
7. Baker & Gorusch (1982)	52 participants from a religious wilderness camp in Southern California	Intrinsic-Extrinsic religion measure from the Religious Orientation Scale (Allport & Ross 1967)	Institute for Personality and Ability Testing Anxiety Scale (Scheier & Cattell 1960)	Correlational analyses	<i>Beneficial:</i> Total trait anxiety significantly negatively correlated with intrinsic religiousness. <i>Harmful:</i> Total trait anxiety scores were positively associated with extrinsic religiousness.
8. Bergin, Masters & Richards (1987)	61 undergraduate students at Brigham Young University	Intrinsic-Extrinsic religion measure from the Religious Orientation Scale (Allport & Ross 1967)	Taylor Manifest Anxiety Scale (Taylor 1953)	Correlational analyses	<i>Beneficial:</i> Total anxiety score negatively related to intrinsic religiousness* <i>Harmful:</i> Significant and positive association between extrinsic religion and manifest anxiety. *98.6% of the sample was intrinsically oriented
9. Sturgeon & Hamley (1979)	148 students from a conservative, Protestant-affiliated	Intrinsic-Extrinsic religion measure from the Religious Orientation Scale (Allport & Ross 1967)	Spielberger State-Trait Anxiety Inventory (Spielberger et al. 1983)	T tests on highest 20 scores (intrinsic) and lowest 20 scores (extrinsic)	<i>Beneficial:</i> The intrinsic group was significantly less existentially anxious and showed less trait anxiety than the extrinsic group.

	college	Ross 1967); Inventory of religious belief (Brown & Lowe 1951)	and existential anxiety: (Good & Good 1974)		Null: Groups did not differ on state anxiety.
10. Tapanya, Nickl & Jarusawad (1997)	104 non-institutionalized, middle-class health older adult Buddhists (N=52) and Christians (N= 52).	Age Universal I-E Scale (Gorusch & Venable 1983) – and adaptation of the Religious Orientation Scale	Penn State Worry Questionnaire (Meyer et al. 1990)	Multiple regression analyses	<i>Beneficial:</i> A significant negative correlation emerged between intrinsic orientation and worry scores for Buddhists, and Buddhists were found to be more intrinsically and extrinsically oriented than Christians. Intrinsic religion was found to be associated with lower levels of worry, especially for Buddhists. <i>Harmful:</i> Variance in PSWQ scores were uniquely related to a two-way interaction between extrinsic orientation and religious affiliation. There was a significant correlation between worry level and extrinsic orientation for Buddhists only.
11. Spellman, Baskett & Byrne (1971)	3 equal-sized groups assigned into categories by two ministers of members of a predominantly Protestant farming community (N=60)	Sudden religious conversion Categories: “non-religious” (mean age = 41.3); “regular attenders” (mean age = 41.3); “sudden converts” (mean age = 36.9)	Taylor Manifest Anxiety Scale (Taylor 1953)	Orthogonal comparisons	<i>Harmful:</i> Higher mean anxiety scores were observed for the sudden covert group than the other two groups combined, which did not differ significantly from one another.
12. Wilson & Miller (1968)	100 undergraduates from the University of Alabama	Church attendance, belief in a supreme power, soul immortality, and religious immortality.	Taylor Manifest Anxiety Scale (Taylor 1953)	Correlational analyses	<i>Harmful:</i> Religiosity positively associated with fear and anxiety. <i>Beneficial:</i> Intrinsic religion associated with less anxiety. <i>Harmful:</i> Extrinsic religion associated with higher anxiety.
13. Heintzelman & Fehr (1976)	82 undergraduate students from the University of Cincinnati (41 males, 41 females; mean age = 20.6)	Thoules Test of Religious Orthodoxy (Brown 1962, Thoules 1935)	Taylor Manifest Anxiety Scale (Taylor 1953)	Correlational analysis	<i>Null:</i> No significant relationship was found between religiosity and anxiety.
14. Fehr & Heintzelmann (1977)	120 undergraduate students from the University of Cincinnati (60 males, 60 females; mean age = 19.8)	Thoules Test of Religious Orthodoxy (Brown 1962, Thoules 1935)	Taylor Manifest Anxiety Scale (Taylor 1953)	Correlational analysis	<i>Null:</i> No significant relationship was found between religiosity and anxiety.
15. Frenz & Carey (1989)	119 undergraduate students from a private university in New York (76 females, 43 males)	Intrinsic/Extrinsic Scale (Feagin 1964) – a 12-item adaptation of the Religious Orientation Scale	Trait version of the Spielberger State-Trait Anxiety Inventory (Spielberger et al. 1983)	Participants were categorised into four groups: ‘intrinsic’ (N=12), ‘extrinsic’ (N=46), ‘indiscriminate’ (N=41), and ‘nonreligious’ (N=20). Correlational analyses.	<i>Null:</i> The four groups did not differ on trait anxiety, and correlations between trait anxiety and continuous scores on the intrinsic/extrinsic subscales were also non-significant.
16. Krause & Van Tran (1989)	2107 participants in the National Survey of Black Americans	Six items assessing “organisational” and “nonorganisational” religiosity	10-item checklist assessing stressful life events including health, financial, and interpersonal problems.	Structural equation modelling testing 3 hypothetical models: religion acts as a (1) moderator; (2) suppressor, or (3) distress-deterrent.	<i>Null:</i> Religiosity and stress were unrelated. Model 3 had the highest goodness of fit – religious involvement was important in maintaining self-esteem, but these effects operate independently of the amount of stress present.

Appendix C: Scales from the Young Adult Self Report

Table C1: Items included in the YASR anxiety/depression subscale

I feel lonely	I lack self-confidence
I feel confused or in a fog	I am too fearful or anxious
I cry a lot	I feel too guilty
I worry about my future	I am self-conscious or easily embarrassed
I am afraid I might think or do something bad	I am unhappy, sad, or depressed
I feel that I have to be perfect	I worry a lot
I feel that no one loves me	I am too concerned about how I look
I feel worthless or inferior	I worry about my relations with the opposite sex
I am nervous and tense	
$\alpha = 0.91$	

Table C2: Items contained in the YASR externalising scale

I brag	I do things that may cause me trouble with the law
I try to get a lot of attention	I fail to pay debts or meet other financial responsibilities
I get teased a lot	I argue a lot
I show off or clown	I am mean to others
I talk too much	I don't get along with other people
I tease others a lot	I get along badly with my family
I am louder than others	I feel that others are out to get me
I use drugs (other than alcohol) for non-medical purposes	I get in many fights
I destroy things belonging to others	I physically attack people
I break rules at work, where I study, or elsewhere	I scream or yell a lot
I hang around with others who get in trouble	I am stubborn, sullen, or irritable
I lie or cheat	My moods or feelings change suddenly
I steal	I have a hot temper
I drink too much alcohol or get drunk	I threaten to hurt people
$\alpha = 0.86$	

Appendix D: Scales from the Youth Self Report

Table D: Items contained in the scales from the Youth Self Report

Anxious/depressed	Externalising
Afraid might think or do something bad Feel I have to be perfect Nervous or tense Fearful or anxious Feel too guilty Self conscious and easily embarrassed Suspicious Worry a lot Feel lonely Cry a lot Deliberately try to hurt or kill self Feel that no one loves me Feel that others are out to get me Feel worthless or inferior Think about killing myself Unhappy sad or depressed $\alpha = 0.84$	Don't feel guilty Hang round with kids who get in trouble Lie or cheat Rather be with older kids Run away from home Set fires Steal at home Steal outside home Swear or use dirty language Argue a lot Brag Mean to others Try to get a lot of attention Destroy own things Destroy things belonging to others Disobey at school Jealous of others Get in many fights Physically attack people Scream a lot Show off or clown Stubborn Mood or feelings suddenly change Talk too much Tease others a lot Hot temper Threaten to hurt people Louder than other kids
Thought	
Can't get mind off certain thoughts Hear sounds or voices that other people think aren't there Repeat several acts over and over See things that other people think aren't there Store things up I don't need Do things other people think are strange Have thoughts other people think are strange $\alpha = .69$	$\alpha = 0.87$

Appendix E: Potential confounders for young adult religiosity

Table E1: Potential confounders of associations between religious background and young adult belief in God

Variable tested	Religious background Explanatory variables		
	Maternal belief in God	Maternal church attendance	Maternal religious affiliation
Gender	-	-	-
Young adult age	-	-	-
Young adult education	Yes	Yes	-
Alcohol use	-	Yes	-
Cannabis use	Yes	Yes	-
Other substance use	-	-	Yes
Maternal age	Yes	Yes	-
Maternal education	-	-	-
Race	Yes	Yes	-
Family income in adolescence	-	-	-
Parents together until adulthood	Yes	Yes	Yes
Neighbourhood problems	-	-	-

Table E2: Potential confounders of associations between religious background and young adult belief in a spiritual or higher power other than God

Variable tested	Religious background Explanatory variables		
	Maternal belief in God	Maternal church attendance	Maternal religious affiliation
Gender	-	-	-
Young adult age	-	-	-
Young adult education	-	-	-
Alcohol use	-	-	-
Cannabis use	Yes	Yes	-
Other substance use	-	-	Yes
Maternal age	-	-	-
Maternal education	-	-	-
Race	-	-	-
Family income in adolescence	-	-	-
Parents together until adulthood	Yes	Yes	Yes
Neighbourhood problems	-	-	-

- Null relationship between test variable and either the explanatory or outcome variable, or both variables

Yes: Potential confounder – test variable significantly associated with both the explanatory and outcome variables

Table E3: Potential confounders of associations between religious background and young adult church attendance

Variable tested	Religious background Explanatory variables		
	Maternal belief in God	Maternal church attendance	Maternal religious affiliation
Gender	-	-	-
Young adult age	-	-	-
Young adult education	Yes	Yes	-
Alcohol use	-	Yes	-
Cannabis use	Yes	Yes	-
Other substance use	-	-	Yes
Maternal age	Yes	Yes	-
Maternal education	Yes	Yes	Yes
Race	Yes	Yes	-
Family income in adolescence	-	-	-
Parents together until adulthood	Yes	Yes	Yes
Neighbourhood problems	-	-	-

- Null relationship between test variable and either the explanatory or outcome variable, or both variables

Yes: Potential confounder – test variable significantly associated with both the explanatory and outcome variables

Appendix F: Potential confounders for anxiety/depression

Table F: Potential confounders of associations between young adult religiosity and anxiety/depression

Variable tested	Females			Males		
	Explanatory variables			Explanatory variables		
	Belief in God	Belief in S/HP	Church attendance	Belief in God	Belief in S/HP	Church attendance
Young adult age	-	-	-	-	-	-
Young adult education	Yes	-	-	-	-	-
Young adult alcohol consumption	Yes	Yes	Yes	-	-	-
Young adult cannabis use	Yes	Yes	Yes	Yes	Yes	Yes
Young adult other substance use	Yes	Yes	Yes	-	Yes	-
Maternal age	-	-	-	-	-	-
Maternal education	-	-	-	-	-	-
Race	-	-	-	-	-	-
Family income in adolescence	-	-	-	-	-	-
Parents together until adulthood	Yes	Yes	Yes	-	Yes	Yes
Quality of neighbourhood	-	-	-	-	Yes	-

- Null relationship between test variable and either the explanatory or explanatory variable, or both

Yes Potential confounder – test variable significantly associated with both the explanatory variable and young adult anxiety/depression

Appendix G: Potential confounders for delusional ideation

Table G1: Potential confounders of associations between religious background and religious ideation

Variable tested	Young adults (females and males)		
	Explanatory variables		
	Maternal belief in God	Maternal church attendance	Maternal religious affiliation
Gender	-	-	-
Young adult age	-	-	-
Young adult education	-	-	-
Young adult alcohol consumption	-	Yes	-
Young adult cannabis use	-	-	-
Young adult other substance use	-	-	-
Maternal age	Yes	Yes	-
Maternal education	Yes	Yes	Yes
Race	Yes	Yes	-
Family income in adolescence	-	-	-
Parents together until adulthood	Yes	Yes	Yes
Neighbourhood problems	-	-	-

Table G2: Potential confounders of associations between young adult religiosity and total PDI scores

Variable tested	Young adults (females and males)		
	Explanatory variables		
	Belief in God	Belief in S/HP	Church attendance
Gender	-	-	-
Young adult age	-	-	Yes
Young adult education	-	-	-
Young adult alcohol consumption	-	-	-
Young adult cannabis use	Yes	Yes	Yes
Young adult other substance use	Yes	Yes	Yes
Maternal age	-	-	-
Maternal education	-	-	-
Race	-	-	-
Family income in adolescence	-	-	-
Parents together until adulthood	-	Yes	Yes
Neighbourhood problems	-	Yes	-

- Null relationship between test variable and either the explanatory or outcome variable, or both
- Yes Potential confounder – test variable significantly associated with both the explanatory variable and young adult delusional ideation

Appendix H: Potential confounders for externalising behaviour

Table H1: Potential confounders of associations between young adult religiosity variables and externalising behaviour

Variable tested	Females			Males		
	Explanatory variables			Explanatory variables		
	Belief in God	Belief in S/HP	Church attendance	Belief in God	Belief in S/HP	Church attendance
Young adult age	-	-	-	-	-	-
Young adult education	Yes	-	-	-	-	-
Maternal age	-	-	-	Yes	-	Yes
Maternal education	-	-	-	-	-	-
Race	-	-	-	-	-	-
Family income in adolescence	-	-	-	-	-	-
Parents remaining together until adulthood	Yes	Yes	Yes	-	Yes	Yes
Neighbourhood problems	-	Yes	-	-	Yes	-

Table H2: Potential confounders of associations between religious background and young adult externalising behaviour

Variable tested	Females			Males		
	Explanatory variables			Explanatory variables		
	Maternal belief in God	Maternal church attendance	Maternal religious affiliation	Maternal belief in God	Maternal church attendance	Maternal religious affiliation
Young adult age	-	-	-	-	-	-
Young adult education	Yes	Yes	-	-	-	-
Maternal age	-	-	-	Yes	Yes	
Maternal education	-	-	-	-	-	-
Race	-	Yes	-	-	-	-
Family income in adolescence	-	-	-	-	-	-
Parents remaining together until adulthood	Yes	Yes	-	-	Yes	-
Neighbourhood problems	-	-	-	-	-	-

- Null relationship between test variable and either the explanatory or outcome variable, or both
- Yes Potential confounder – test variable significantly associated with both the explanatory variable and externalising behaviour